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NORTH CAROLINA GEOLOGICAL AND ECONOMIC SURVEY

JOSEPH HYDE PRATT, STATE GEOLOGIST

BULLETIN NO. 18

BIBLIOGRAPHY OF NORTH CAROLINA GEOLOGY, MINERALOGY AND GEOGRAPHY

WITH A LIST OF MAPS

BY

FRANCIS BAKER LANEY, PH. D.

Assistant Curator of Geology in the U. S. National Museum

AND

KATHARINE HILL WOOD



RALEIGH

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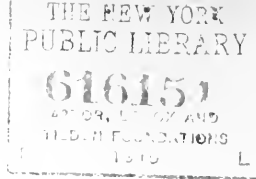
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LETTER OF TRANSMITTAL

CHAPEL HILL, N. C., September 1, 1909.

To His Excellency, HON. W. W. KITCHIN,
Governor of North Carolina.

Sir.—I have the honor to submit for publication as Bulletin 18 of the reports of the North Carolina Geological and Economic Survey, a bibliography of North Carolina Geology, Mineralogy, and Geography, with a list of maps which has been prepared by Dr. Francis B. Laney, Assistant Curator of Geology, United States National Museum, and Miss Katharine Hill Wood, under the supervision of the State Geologist.

This Bulletin, by giving references to practically all articles published relating to the subjects mentioned above, will be of very great assistance to all students and investigators who are working on these or allied subjects.

Yours very respectfully,

JOSEPH HYDE PRATT,
State Geologist.

INTRODUCTION

The following bibliography relating to North Carolina geology, mineralogy, geography and allied subjects, as paleontology, meteorology, petrology, etc., has been made just as complete as possible, although there are undoubtedly certain references left out that should be included. Over 200 periodicals have been examined, and in most cases complete files of these have been available. This list is given at the end of the bibliography, and those where complete files were not available are marked with an asterisk.

Some articles relating to the subjects included in this bibliography were published privately, and certain of these have probably been omitted, as no record of them could be found in the libraries examined.

The following libraries were visited: Yale University Library, New Haven, Connecticut; Library of Congress, United States Geological Survey, U. S. National Museum, Coast and Geodetic Survey, Department of Agriculture, and War Department Libraries, Washington, D. C.; Johns Hopkins University and Peabody Institute Libraries, Baltimore, Md.; Virginia State Library, Richmond, Virginia; North Carolina State Library, Raleigh, North Carolina; the North Carolina Geological and Economic Survey, the University of North Carolina and the Kemp P. Battle Libraries, Chapel Hill, N. C.; Library of Stephen B. Weeks, of Trinity and Greensboro, North Carolina. To the librarians of all these libraries and to Mr. Stephen B. Weeks, the Geological Survey wishes to extend its sincere thanks for the many courtesies and personal assistance that was extended to those who were looking up the references.

In the preparation of this bibliography the authors have been assisted by Miss Alice A. Wood, formerly of Yale University Library, and Professor L. C. Glenn, of Vanderbilt University, Nashville, Tennessee, to whom acknowledgments are due.

The Bulletin is divided into two parts; part one containing the bibliography, and part two containing a list of maps relating to North Carolina.

Any one making use of this bibliography who finds any errors in the references, or who knows of articles not included in the bibliography, will confer a favor upon the North Carolina Geological and Economic Survey if they will note these errors and omissions, and send notice of same to the State Geologist.

JOSEPH HYDE PRATT,
State Geologist.

PART I

**BIBLIOGRAPHY OF NORTH CAROLINA
GEOLOGY, MINERALOGY
AND GEOGRAPHY**

BY

FRANCIS BAKER LANEY, PH. D.

Assistant Curator of Geology in the U. S. National Museum

AND

KATHARINE HILL WOOD

PART I

**BIBLIOGRAPHY OF NORTH CAROLINA
GEOLOGY, MINERALOGY
AND GEOGRAPHY**

BY
FRANCIS BAKER LANEY AND KATHARINE HILL WOOD

1. ABBE, CLEVELAND JR.

Remarks on the cusped capes on the Carolina coast.

Bost. Soc. Nat. Hist., Proc., v. 26 (1895): 489-497.

Discusses form of coast and origin of capes Hatteras, Lookout and Fear.

2. ABBOT, FREDERICK V.

Improvement of Lumber river, North and South Carolina.

(*In* Chief of Eng. Rept., 1891, pt. 2. Appendix M 2, pp. 1445-1447.)

—— ——— (*In* Chief of Eng. Rept., 1892, pt. 2. Appendix M 2, pp. 1199-1201.)

—— ——— (*In* Chief of Eng. Rept., 1893, pt. 2. Appendix M 2. pp. 1468-1471.)

—— ——— (*In* Chief of Eng. Rept., 1894, pt. 2. Appendix M 2, pp. 1071-1074.)

—— ——— (*In* Chief of Eng. Rept., 1895, pt. 2. Appendix L 2, pp. 1395-1398.)

Yearly reports of progress.

3. ——— Improvement of Waccamaw river, North and South Carolina.

(*In* Chief of Eng. Rept., 1890, pt. 2. Appendix N 14, pp. 1229-1233.)

—— ——— (*In* Chief of Eng. Rept., 1892, pt. 2. Appendix M 1, pp. 1195-1198.)

—— ——— (*In* Chief of Eng. Rept., 1893, pt. 2. Appendix M 1, pp. 1464-1468.)

- — (In Chief of Eng. Rept., 1894, pt. 2. Appendix M 1, pp. 1067-1071.)
- — (In Chief of Eng. Rept., 1895, pt. 2. Appendix L 1, pp. 1391-1395.)
- — (In Chief of Eng. Rept., 1896, pt. 2. Appendix L 1, pp. 1151-1155.)
- Yearly reports of progress.
4. — [River and harbor improvements in North Carolina in 1905.]
(In Chief of Eng. Rept., 1905, pt. 1. Wash., 1905. pp. 231-254.)
5. ABERT, S[ILVANUS] T[CHAYER].
Examination of Catawba river from the South Carolina line to Old Fort, North Carolina.
(In Chief of Eng. Rept., 1876, pt. 1. Appendix G 16, pp. 367-376.)
- — (In U. S. 44th Cong., 1st Sess., 1876. House Ex. Doc. No. 94, pp. 13-22.)
General description of Catawba river. Notes on topography and geology of the country, with table of levels and distances. Mentions deposits of iron ore in Gaston, Lincoln and Catawba counties.
6. — Examination of Neuse river from its mouth to Goldsborough, North Carolina.
(In Chief of Eng. Rept., 1876, pt. 1. Appendix G 15, pp. 363-367.)
- — (In U. S. 44th Cong., 1st Sess., 1876. House Ex. Doc. No. 94, pp. 9-13.)
7. — Examination of Pamlico river from its mouth to the town of Washington, North Carolina.
(In Chief of Eng. Rept., 1876, pt. 1. Appendix G 14, pp. 361-363.)
- — (In U. S. 44th Cong., 1st Sess., 1876. House Ex. Doc. No. 94, pp. 8-9.)
8. — Examination of Pasquotank river, from Albemarle sound to Elizabeth City, North Carolina.
(In Chief of Eng. Rept., 1876, pt. 1. Appendix G 12, p. 360.)
- — (In U. S. 44th Cong., 1st Sess., 1876. House Ex. Doc. No. 94, pp. 6-7.)
9. — Examination of Perquimans river from its mouth to the town of Hertford, North Carolina.
(In Chief of Eng. Rept., 1876, pt. 1. Appendix G 13, p. 361.)
- — (In U. S. 44th Cong., 1st Sess., 1876. House Ex. Doc. No. 94, p. 7.)
10. — Examination of the harbor at Edenton, North Carolina.
(In Chief of Eng. Rept., 1876, pt. 1. Appendix G 11, pp. 358-360.)
- — (In U. S. 44th Cong., 1st Sess., 1876. House Ex. Doc. No. 94, pp. 5-6.)

11. ——— Improvement of Dan river, Virginia and North Carolina.
 (In Chief of Eng. Rept., 1881, pt. 1. Appendix H 15, pp. 977-978.)
 ——— ——— (In Chief of Eng. Rept., 1882, pt. 1. Appendix H 15, pp. 1053-1059.)
 ——— ——— (In Chief of Eng. Rept., 1883, pt. 1. Appendix J 14, p. 830.)
 ——— ——— (In Chief of Eng. Rept., 1884, pt. 2. Appendix K 15, pp. 1000-1001.)
 ——— ——— (In Chief of Eng. Rept., 1885, pt. 2. Appendix K 15, pp. 993-995.)
 ——— ——— (In Chief of Eng. Rept., 1886, pt. 2. Appendix J 15, pp. 925-927.)
 ——— ——— (In Chief of Eng. Rept., 1887, pt. 1. Appendix K 15, pp. 953-955.)
 ——— ——— (In Chief of Eng. Rept., 1888, pt. 2. Appendix K 14, pp. 838-840.)
 ——— ——— (In Chief of Eng. Rept., 1889, pt. 2. Appendix L 13, pp. 1023-1024.)
 Yearly reports of progress.
12. ——— Improvement of French Broad river, North Carolina.
 (In Chief of Eng. Rept., 1878, pt. 1. Appendix G 13, pp. 522-538.)
 ——— ——— (In Chief of Eng. Rept., 1879, pt. 1. Appendix G 17, pp. 648-649.)
 ——— ——— (In Chief of Eng. Rept., 1880, pt. 1. Appendix H 18, pp. 791-793.)
 ——— ——— (In Chief of Eng. Rept., 1881, pt. 1. Appendix H 16, pp. 978-980.)
 ——— ——— (In Chief of Eng. Rept., 1883, pt. 1. Appendix J 16, pp. 832-836.)
 ——— ——— (In Chief of Eng. Rept., 1884, pt. 2. Appendix K 17, pp. 1002-1003.)
 ——— ——— (In Chief of Eng. Rept., 1885, pt. 2. Appendix K 17, pp. 997-999.)
 Briefly outlines history of river improvement.
 Yearly reports of progress.
13. ——— Improvement of Pamlico river, North Carolina.
 (In Chief of Eng. Rept., 1878, pt. 1. Appendix G 16, pp. 540-541.)
 ——— ——— (In Chief of Eng. Rept., 1879, pt. 1. Appendix G 18, pp. 649-652.)
 Reports of progress.
14. ——— Improvement of Perquimans river, North Carolina.
 (In Chief of Eng. Rept., 1877, pt. 1. Appendix G 12, pp. 367-368.)
 ——— ——— (In Chief of Eng. Rept., 1878, pt. 1. Appendix G 14, pp. 538-539.)

- ——— (*In Chief of Eng. Rept.*, 1879, pt. 1. Appendix G 15, p. 626.)
 Reports of progress.
15. ——— Improvement of Roanoke river, North Carolina.
 (*In Chief of Eng. Rept.*, 1877, pt. 1. Appendix G 11, pp. 366-367.)
- ——— (*In Chief of Eng. Rept.* 1882, pt. 1. Appendix H 17, pp. 1059-1066.)
- ——— (*In U. S. 47th Cong.*, 1st Sess., 1882. Sen. Ex. Doc. No. 137, pp. 10-16.)
 Account of survey of river from Weldon, N. C., to Clarksville, Va., describing river and its tributaries.
- ——— (*In Chief of Eng. Rept.*, 1883, pt. 1. Appendix J 15, p. 831.)
- ——— (*In Chief of Eng. Rept.*, 1885, pt. 2. Appendix K 16, pp. 995-997.)
 Contains history of river improvement.
- ——— (*In Chief of Eng. Rept.*, 1887, pt. 1. Appendix K 16, pp. 955-957.)
- ——— (*In Chief of Eng. Rept.* 1888, pt. 2. Appendix K 15, pp. 840-843.)
 Reports of progress.
16. ——— Improvement of Yadkin river, North Carolina.
 (*In Chief of Eng. Rept.*, 1879, pt. 1. Appendix G 16, pp. 626-648.)
- ——— U. S. 46th Cong., 1st Sess., 1879. Sen. Ex. Doc. No. 35. 23 pp.
 Report of survey.
17. ——— Preliminary examination of Roanoke river from Clarksville, Va., to Eaton Falls, North Carolina.
 (*In Chief of Eng. Rept.*, 1887, pt. 1. Appendix K 19, pp. 960-961.)
18. ——— Preliminary examination of Roanoke river, North Carolina.
 (*In Chief of Eng. Rept.*, 1884, pt. 2. Appendix K 26, pp. 1020-1025.)
- ——— (*In U. S. 48th Cong.*, 1st Sess., 1884. Sen. Ex. Doc. No. 64, pp. 12-17.)
19. ——— Roanoke river, North Carolina.
 (*In Chief of Eng. Rept.*, 1875, pt. 2. Appendix W 9, pp. 129-133.)
- ——— (*In Chief of Eng. Rept.*, 1876, pt. 1. Appendix G 9, pp. 352-355.)
 Describes general condition of river, and gives table of daily gauge heights at Wilton and Hamilton.
20. ——— Survey of a line to connect the waters of the Neuse and Cape Fear rivers in North Carolina, and of a line to connect the waters of Norfolk harbor in Virginia with the waters of the Cape Fear river, at or near Wilmington, N. C.
 (*In Chief of Eng. Rept.*, 1876, pt. 1. Appendix G 17, pp. 376-429.)

- — — U. S. 44th Cong., 1st Sess., 1876. Sen. Ex. Doc. No. 35.
57 pp.
Review: Am. Jour. Sci., Ser. III, v. 12 (1876): 149.
Notice: Geol. Record, 1876, p. 127.
Description of physical features of country, history of changes in the coast lines and inlets since Raleigh's voyages, and detailed account of former surveys, including report made by James Kearney in 1838. Map.
21. — Survey of Dan river between Danbury, North Carolina, and Danbury, Virginia.
(In Chief of Eng. Rept., 1879, pt. 1. Appendix G 19, pp. 652-672.)
Describes character and resources of the region. Includes extracts from report of S. W. Evans, and from "Mineral resources of North Carolina," by F. A. Genth, which describe mineral resources of the district.
22. [Account of storm in North Carolina on Sept. 20-24, 1761.]
London Mag., v. 30 (1761): 673.
Notice: Chief of Eng. Rept., 1873, p. 805.
States that the storm opened a new channel between Cedar House and the Bald-head—the origin of New inlet.
23. ACHESON, EDWARD G[OODRICH].
Corundum [of North Carolina in 1897.]
Mineral Industry, v. 6 (1897): 14.
Notes on corundum mining industry in 1897, describing the Corundum Hill mine at Cullasagee, Macon county.
24. ADGER, J[OHN] B[ILEY?]
Analysis of a compact talc from North Carolina.
Chem. News, v. 25, No. 654 (1872): 270-271.
— — — Am. Jour. Sci., Ser. III, v. 4 (1872): 419.
Abstract by J[ohn] W[atts]: Chem. Soc. (London) Jour., v. 25, (1872): 681.
Description and analysis of soapstone from the Nantahala mountains, Swain county.
25. Albemarle and Chesapeake Canal.
DeBow's Review, v. 24 (1858): 536-541.
Geographical notes on coast discussing advantages to be gained by a canal connecting Currituck sound with Albemarle and Pamlico sounds.
26. Albemarle Sound and Atlantic Ocean.
Report of Committee on Commerce in relation to cutting a canal between Albemarle sound and the Atlantic Ocean.
U. S. 27th Cong., 2d Sess., 1842. Rept. of Com., v. 4, No. 891. 29 pp.
Contains report of Walter Guyon on practicability of re-opening Roanoke inlet.
- ALLEN, E[UGENE] T[OMAS].
The isomorphism and thermal properties of the feldspars.
See Day and Allen, No. 467.
- ALLEN, NETTIE M.
North Carolina. (Supplementary volume to Tarr & McMurry geographies.)
See Foust and Allen, No. 597.

27. ALLEN, O₁SCAR₁ D₁ANA₁.

Chemical constitution of hatchettolite and samarskite from Mitchell county, North Carolina.

Am. Jour. Sci., Ser. III, v. 14 (1877): 128-131.

Abstract by F. D. Brown: Chem. Soc. (London) Jour., v. 34 (1878): 206-207.

Abstract by E. S. Dana: Zts. f. Kryst. u. Min., v. 1 (1877): 502-503.

Description and analyses of these minerals.

28. ALVORD, BENJAMIN.

Recent earthquakes in North Carolina.

Phil. Soc. Wash., Bull., v. 1 (1874): 101-102.

Description of earthquake phenomena in the Blue Ridge, which commenced Feb. 10, and continued until March 19, 1874.

29. American agricultural and mineral land company. Letters and reports on western North Carolina. New York, G. E. Sears, 1868. 22 pp. 22 cm.

Contains brief communications from T. L. Clingman and W. C. Kerr, on general and mineral resources; from A. Guyot on the mountain region; and from W. H. Letterman on agricultural advantages.

30. The American prospecting and mining company. Reports upon the property. New York, 1899. 40 pp. 27 cm.

Contains description of general features of Macon county, geology, veins, and mining developments and water supply; reports on property by W. E. Hidden and C. Barrington Brown; "A new mode of occurrence of the ruby," by J. W. Judd and W. E. Hidden. See under authors.

31. ANDRESEN, THOMAS F.

Report on the Caldeleugh gold mining property, situated in Davidson county, North Carolina. Greensboro, N. C., 1894. 20 pp. 12 cm.

Describes physical and geological features of this property, veins and ores.

32. ARDREY, W. E.

Production of precious metals in North Carolina.

(In U. S. Mint, Prod. of precious metals in U. S. in 1893. Wash., 1894. pp. 105-106.)

— — (In U. S. Mint, Prod. of precious metals in U. S. in 1894. Wash., 1895. pp. 94-96.)

— — (In U. S. Mint, Prod. of precious metals in U. S. in 1895. Wash., 1896. pp. 97-101.)

— — (In U. S. Mint, Prod. of precious metals in U. S. in 1896. Wash., 1897. pp. 182-183.)

Yearly reports of production.

33. ARGALL, PHILIP.

Nickel from North Carolina.

Col. Sci. Soc., Proc., v. 4 (1893): 414-415.

Contains notes on nickel silicate from Webster. Quotes J. S. Diller and S. H. Emmens concerning the nickel deposits.

34. ARMSTRONG, S. C.

Coal in North Carolina.

(In U. S. Geol. Survey, Min. Res., 1883-1884. Wash., 1885. p. 59.)

Describes deposits of coal in Stokes county which have never been mined, and gives two analyses by F. A. Genth.

ARRINGTON, ARTHUR.

Sketch of the history and resources of Franklin county...

See Green, Davis, and Arrington, No. 681.

35. ASBURY, SAMUEL E.

Analyses of iron ores.

(In North Carolina, Commissioner of Agric., Rept., 1902.

Raleigh, Edwards & Broughton, 1903. 23 cm. pp. 58-60.)

List of 73 analyses.

36. ASHBURNER, CHARLES ALBERT.

Coal in North Carolina in 1885.

(In U. S. Geol. Survey, Min. Res., 1885. Wash., 1886. pp. 41-43.)

Describes Deep River coal beds in Chatham county, and gives analyses by State chemist.

36a. — Coal in North Carolina in 1887.

(In U. S. Geol. Survey, Min. Res., 1887. Wash., 1888. pp. 279-281.)

Describes triassic coal beds on Deep and Dan rivers, and gives account of explorations conducted by H. B. Robson in the Dan River field.

37. ASHBURY, DANIEL.

Gold mines at Gold Hill, Rowan county, North Carolina.

Min. Mag., Ser. I, v. 1 (1853): 69; 411-412.

Describes gold and copper mines at Gold Hill at this date, and gives statistics of production.

ASHE, WILLIAM WILLARD.

Forests and forest conditions in the southern Appalachians.

See Ayres and Ashe, No. 43.

38. — Notes on the forest resources of North Carolina.

Eliis. Mit. Sci. Soc., Jour., v. 10 (1893): 5-25.

Contains notes on topographic features of the Coastal Plain, Piedmont and western sections.

39. — Report on an examination of certain swamp lands belonging to the State.

(In N. C. Geol. Survey, Biennial report of State Geologist for 1905-1906. 24 cm. pp. 40-50.)

Describes swamp lands located in Coastal Plain district in Pender, Duplin, Carteret and Craven counties.

— The southern Appalachian forests.

See Ayres and Ashe, No. 44.

40. — Terracing of farm lands.
 N. C. Geol. & Econ. Survey, Bull. 17. Raleigh, E. M. Uzzell & Co., 1908. 38 pp. 26 cm.
 Describes general characteristics and values of the soils of the Piedmont region of the state, the processes and effects of erosion as regards the soils, and the beneficial effects of terracing.
41. ASHMORE, SIDNEY.
 Report of the Silver Hill mining company, Silver Hill, North Carolina, 1860. New York, 1860. 7 pp. 22½ cm.
 Account of the Silver Hill mine, résumé of property belonging to the company, statistics as to output and value of ores.
42. Assay office, gold districts—North Carolina.
 U. S. 21st Cong., 2d Sess. Repts. of Committees. Rept. No. 82. Wash., 1831. 29 pp.
 — U. S. 22d Cong., 1st Sess. Repts. of Committees, v. 1. Rept. No. 39. Wash., 1831. 29 pp.
 Contains report from select committee (Gideon Glenn, chairman), advising establishment of a branch mint in North Carolina; letters from Charles Fisher, Salisbury; A. Blanding, J. H. Bissell, Charlotte; and I. T. Avery, Burke county, describing gold districts and general conditions.
 — U. S. 23d Cong., 1st Sess. Repts. of Committees, v. 3. Rept. No. 391. Wash., 1834. 13 pp.
 Report advising establishment of a branch mint in gold region of the state.
43. AYRES, H[ORACE] B[EEMER] and ASHE, W[ILLIAM] W[ILLARD].
 Forests and forest conditions in the southern Appalachians. (Appendix a to Roosevelt, T. Message from the President transmitting a report of the Secretary of Agriculture in relation to the forests, rivers and mountains of the southern Appalachian region. U. S. 57th Cong., 1st Sess. Sen. Ex. Doc. 84. Wash., 1902. pp. 45-110.)
 Describes general topography of the western North Carolina Appalachian region, the forests, mountains, river basins, and general agricultural conditions in detail.
44. — The Southern Appalachian forests.
 U. S. Geol. Survey, Prof. Paper No. 37. Wash., 1905. 291 pp. Illus. Maps. 30 cm.
 Description of geographic and topographic features of the mountain region. Describes natural resources and drainage basins of the following rivers: New, Holston, Watauga, Nolichucky, Frenchbroad, Pigeon, Little Tennessee, Hiwassee, Catawba, and Yadkin.
45. AYRES, STEPHEN.
 A description of the region in North Carolina where gold has been found.
 Med. Repos., v. 10 (1807): 148-151.
 Contains account of Reed's gold mine in Cabarrus county, mining methods, and of the supposed artificial wall near Salisbury.
- AYRS, O. L.
 Soil survey of the Greenville area, Tennessee-North Carolina.
 See Mooney and Ayrs, No. 1250.

46. BACHE, ALEXANDER DALLAS.

[Coast survey operations in North Carolina.]

- (In U. S. Coast Survey, Rept. 1845. Wash., 1846. pp. 25-26.)
- — (In U. S. Coast Survey, Rept. 1846. Wash., 1847. pp. 25-27.)
- — (In U. S. Coast Survey, Rept. 1847. Wash., 1848. pp. 34-37.)
- — (In U. S. Coast Survey, Rept. 1848. Wash., 1849. pp. 9; 12; 41-46.)
- — (In U. S. Coast Survey, Rept. 1849. Wash., 1850. pp. 6; 11; 36-42.)
- — (In U. S. Coast Survey, Rept. 1850. Wash., 1851. pp. 10; 28-33.)
- — (In U. S. Coast Survey, Rept. 1851. Wash., 1852. pp. 20; 55-62.)
- — (In U. S. Coast Survey, Rept. 1852. Wash., 1853. pp. 9; 31-34.)
- — (In U. S. Coast Survey, Rept. 1853. Wash., 1854. pp. 19; 52-54.)
- — (In U. S. Coast Survey, Rept. 1854. Wash., 1855. pp. 20; 49-54.)
- — (In U. S. Coast Survey, Rept. 1855. Wash., 1856. pp. 27-28; 55-58.)
- — (In U. S. Coast Survey, Rept. 1856. Wash., 1857. pp. 21-22; 49-53; 55-56.)
- — (In U. S. Coast Survey, Rept. 1857. Wash., 1858. pp. 9; 59-65; 66-68; 74.)
- — (In U. S. Coast Survey, Rept. 1858. Wash., 1859. pp. 8; 64-67; 69-70; 72; 77-78.)
- — (In U. S. Coast Survey, Rept. 1859. Wash., 1860. pp. 8; 57-63; 68-69.)
- — (In U. S. Coast Survey, Rept. 1860. Wash., 1861. pp. 5; 52-56.)
- — (In U. S. Coast Survey, Rept. 1861. Wash., 1862. pp. 5; 42-45.)
- — (In U. S. Coast Survey, Rept. 1862. Wash., 1863. pp. 43-47.)
- — (In U. S. Coast Survey, Rept. 1863. Wash., 1864. pp. 6; 41-43.)
- — (In U. S. Coast Survey, Rept. 1864. Wash., 1865. pp. 2; 4; 24-27.)
- — (In U. S. Coast Survey, Rept. 1865. Wash., 1866. pp. 21-23.)

Yearly reports of progress.

47. — Geographical notice of the coast survey operations during the year 1859.

Am. Geog. & Statist. Soc., Jour., v. 2 (1860): 13-19.

Brief mention of progress of work in the Carolinas, pp. 15; 16.

48. — Hydrographic reconnaissance of Wimble shoals, coast of North Carolina.
(*In U. S. Coast Survey, Rept. 1855. Appendix 13, pp. 20*-21.*)
49. — List of geographic positions determined by the U. S. Coast Survey in North Carolina in 1851.
(*In U. S. Coast Survey, Rept. 1851. pp. 381-406.*)
— — — (*In U. S. Coast Survey, Rept. 1855. pp. 132-137.*)
50. — List of original topographic sheets of North Carolina registered in the archives of the U. S. Coast Survey, geographically arranged.
(*In U. S. Coast Survey, Rept. 1865. Appendix 8, pp. 64-66; 88-91.*)
51. — Notes on the coast of the United States. Section 4. Coast of North Carolina. (With maps.) U. S. Coast Survey, October, 1861. 64 pp. 25 cm.
Describes coast, sounds and rivers of the state.
52. — and HILGARD, J_{ULIUS}, E_{RASMUS}. On the general distribution of terrestrial magnetism in the United States, from observations made in the U. S. Coast Survey and others.
Am. Assoc. Adv. Sci., Proc., 10th meet. (1856): 187-212.
— — — Am. Jour. Sci., Ser. II, v. 24 (1857): 1-20.
In Tables I and IV are given geological data from a number of points in North Carolina. Two maps accompany article in Am. Assoc. Adv. Sci., Proc. but these are omitted in the article in Am. Jour. Sci.
53. BACHE, A_{ALEXANDER}, D_{ALLAS}.
On the progress of the survey of the coast of the United States.
Am. Assoc. Adv. Sci., Proc., 2d meet. (1849): 162-178.
Gives (pp. 172-173) a sketch of the work done hitherto in the Carolinas. Shifting of current and closing of inlet at Hatteras in 1846 incidentally mentioned.
54. — Report . . . on Hatteras shoals.
(*In U. S. Coast Survey, Rept. 1850. Wash., 1851. Appendix 15, p. 92.*)
55. BACHE, HARTMAN.
Report of survey of the swash in Pamlico sound near Ocracoke inlet.
MSS. U. S. War Dept., Office of Chief of Eng., Wash., D. C.
56. — Report on survey of Cape Fear river, 1827.
MSS. U. S. War Dept., Office of Chief of Eng., Wash., D. C.
57. — Report on the survey of Roanoke inlet and sound in the state of North Carolina.
U. S. 20th Cong., 2d Sess., 1829. House Doc. No. 128. 24 pp.
Includes report of Hamilton Fulton to the Board of Internal Improvement, 1820.

58. BACHMAN, I. A.

Analysis of a nickeliferous talc.

Am. Chem. Jour., v. 10 (1888): 45.

—— ——— Am. Nat., v. 22 (1888): 349.

Abstract by H. Baker: Chem. Soc. (London) Jour., v. 54 (1888): 661.

Description and analysis of talc from Webster, Jackson county.

59. BAILEY, J. W.

On the origin of greensand and its formation in the oceans of the present epoch.

Bost. Soc. Nat. Hist., Proc., v. 5 (1856): 364-368.

—— ——— Am. Jour. Sci., Ser. II, v. 22 (1856): 280-284.

Abstract: Neues Jahr. f. Min., 1875, pp. 91; 92.

Describes specimen of yellowish limestone adhering to *Scutella lyellii* from eocene of North Carolina.

60. BAILEY, S. C. H.

The Alexander county meteoric iron.

Elis. Mit. Sci. Soc., Jour., v. 8 (1891): 17-19.

Description of this meteorite, and analysis by F. P. Venable.

61. BALCH, WILLIAM, RALSTON.

[Mines and mining interests of North Carolina in 1882.]

(In his Mines, miners and mining interests of the United States in 1882. Phila., Min. Indust. Pub. House, 1882. 30 x 25 cm. pp. 6; 32; 57-58; 61; 120-127; 1102-1105.)

Deals with mines and mining operations during 1882. Contains extracts from Overman, Swank, Kerr, Raymond, Hidden and Boyd, describing mineral deposits of the state. General description of the mines and localities, methods of working, production and value.

BANNAN, BENJAMIN.

Coal and iron in North Carolina.

See Daddow and Bannan, No. 437.

62. BANNISTER, COWAN & Co.

The resources of North Carolina: its natural wealth, condition and advantages as existing in 1869. Wilmington, 1869. 116 pp. 23 cm.

Presents general advantages of the state, arising from its geographical position, climate, soils, forests, mineral, agricultural and manufacturing resources. Describes the coal and iron deposits, gold, silver and copper mines; building stones, marls and phosphates, and mineral springs.

63. BARKER, GEORGE, FREDERICK.

Memoir of Frederick Augustus Genth.

Nat. Acad. Sci., Biog. Mem., v. 4 (1902): 201-231.

—— ——— Am. Phil. Soc., Proc., v. 40 (1901): x-xxii.

Contains account of Genth's investigations upon the corundum deposits of North Carolina, and a list of his scientific papers.

64. — Radio-activity of thorium minerals.

Am. Jour. Sci., Ser. IV, v. 16 (1903): 161-168.

Account of investigations upon gummite, samarskite and monazite sand from North Carolina in relation to their radio-activity.

65. BARLOW, ALFRED E[ERNEST].

On the nickel deposits of Webster, western North Carolina.

Can. Min. Inst., Jour., v. 9 (1906): 303-316. Map.

Review: Eng. & Min. Jour., v. 82 (1906): 629.

Describes nickel deposits of Webster, Jackson county, their geological relations, mode of occurrence, character and composition of the ore, and gives several analyses by Genth, Schneider and Dunnington.

66. BARNHARDT, GEORGE.

Sketch of the discovery and history of the Reed gold mine in Cabarrus county, North Carolina, being the first gold mine discovered in the United States.

(In Wheeler, John Hill. Historical sketches of North Carolina. Phila., 1851. Vol. 2, pp. 63-64.)

67. BARRANDE, JOACHIM.

Système Taconique du docteur Ebenezer Emmons.

Soc. Géol. de France, Bull., Ser. II, v. 18 (1861): 235-237.

Briefly abstracts portion of Emmons' rept. of 1856 and of his text-book relating to the taconic in North Carolina.

68. BARTLETT, J. R.

The Gulf stream; additional data from the investigations of the. . . "Blake."

Am. Geog. Soc., Jour., v. 14 (1882): 69-84.

A record of observations made from Florida to Currituck, North Carolina, with tables of data from seven lines of soundings off the Carolina coast.

69. BARTRAM, WILLIAM.

Travels through North and South Carolina, Georgia, east and west Florida . . . containing an account of the soil . . . of these regions. . . Phila., James & Johnson, 1791. 522 pp. 20½ cm.

— Ed. 2 reprinted for J. Johnson, 1794. 22 cm.

Contains account of journey (pp. 471-477) up the Cape Fear river. Describes the earth strata, and gives notes on the rocks, petrified shells and wood found on the river banks. Also printed in German, French and Dutch.

70. BASKERVILLE, CHARLES and LOCKHART, L. B.

The action of radium emanations on minerals and gems.

Am. Jour. Sci., Ser. IV, v. 20 (1905): 95-96.

Abstract by F. Rinne: Neues Jahr. f. Min., 1907, Bd. 1. Min., pp. 8-9.

Spodumene (hiddenite) from Alexander county, included among minerals studied.

BASKERVILLE, CHARLES.

The action of radium, roentgen rays and ultra-violet light on minerals and gems.

See Kunz and Baskerville, No. 1028.

71. — The occurrence of vanadium, chromium and titanium in peats.

Am. Chem. Soc., Jour., v. 21 (1899): 706-707.

— — Elis. Mit. Sci. Soc., Jour., v. 16 (1899): 54-56.

— — Eng. & Min. Jour., v. 69 (1900): 737-738.

Abstract by J. J. Studborough: Chem. Soc. (London) Jour., v. 76, pt. 2 (1899): 666.

Analyses of the ash of peats from Hyde swamps, North Carolina.

72. — On the existence of a new element associated with thorium.

Elis. Mit. Sci. Soc., Jour., v. 18, pt. 1 (1901): 1-16.

— — Am. Chem. Soc., Jour., v. 23 (1901): 761-774.

Contains results of laboratory experiments upon thorium salts prepared from oxides obtained from analyses of monazite sands of North Carolina.

73. — The rare metals.

Eng. & Min. Jour., v. 86 (1908): 907; 960; 1055; 1100; 1241-1242; v. 87 (1909): 10-11; 203; 257-258.

Notes on minerals containing the rare metals, many of which are found in North Carolina.

74. BATES, ALBERT C.

Quartz and its varieties.

Mineral Collector, v. 2 (1895): 49-54; 152-153.

Describes quartz-bearing districts in Alexander, Lincoln and Burke counties, occurrence and varieties of quartz crystals. Figures crystals of amethyst and capped quartz.

75. BATTLE, HERBERT, BREMERTON.

Analyses comparing the bituminous coals of North Carolina and Tennessee.

Elis. Mit. Sci. Soc., Jour., v. 3 (1886): 51-53.

76. — The climate of North Carolina.

Southern States, v. 1 (1893): 133-143.

77. — North Carolina marls, limestones and phosphates.

(In N. C. Agric. Exp. Station. 11th Ann. Rept. Raleigh, E. M. Uzzell, 1889. 23 cm. pp. 41-47.)

Discusses phosphatic deposits of Pender and New Hanover counties, and gives many analyses of phosphates, marls and limestones.

78. BATTLE, KEMP PLUMMER.

The names of the counties of North Carolina and the history involved in them. Winston, Wm. A. Blair, 1888. 38 pp. 19½ cm.

Historical sketch of the formation of the counties of the state and derivations of their names.

79. BATTLE, S. WESTRAY.

The Asheville plateau in the mountains of western North Carolina.

Medical Record, v. 52 (1897): 774-775.

Discussion of the climate of Asheville.

80. BAUER, LOUIS, AGRICOLA.

Results of magnetic observations made by the Coast and Geod. Survey, between July 1, 1904, and June 30, 1905, [in North Carolina].

(In U. S. Coast & Geod. Survey, Rept. 1905. Wash., 1906.

Appendix 3, pp. 127; 177.)

Gives magnetic observations made at Salisbury, Rowan county, and Wadesboro, Anson county.

81. ——— [Table of magnetic declinations in North Carolina, and descriptions of the stations.]

(In U. S. Coast & Geod. Survey. Magnetic declination tables for 1902. Wash., 1902. pp. 209-212; 349-355.)

82. BAYLOR, JAMES B. and HAZARD, DANIEL L.

General report on the magnetic survey of North Carolina.

(In U. S. Coast and Geod. Survey, Rept. 1899. Appendix 9, pp. 887-938.)

General account of this survey. Table of summaries of magnetic declinations in the state and descriptions of the observation stations.

83. BECKER, GEORGE FERDINAND.

Gold fields of the southern Appalachians.

(In U. S. Geol. Survey, 16th Ann. Rept., pt. 3. Wash., 1895. pp. 251-331. Maps.)

——— (In U. S. Mint, Prod. of precious metals in U. S. in 1895. pp. 110-174.)

Abstract: Am. Jour. Sci., Ser. IV, v. 1 (1896): 57-60.

Abstract by R. M.: Zts. f. prakt. Geol., 1897, pp. 362-363.

Abstract by A. Osann: Zts. f. Kryst. u. Min., v. 28 (1897): 325-326.

Detailed descriptions of the gold districts of North Carolina with tables of gangue minerals. Includes bibliography of southern gold fields.

84. BECKWITH, JOHN.

A memoir on the natural walls or solid dikes in the state of North Carolina.

Am. Jour. Sci., Ser I, v. 5 (1822): 1-7.

Notice: Leonhard's Zts. f. Min., 1825, Bd. 2, p. 525.

Discusses diabase dikes on the Yadkin river near Salisbury.

BELDEN, H. L.

Soil survey of New Hanover county, North Carolina.

See Drake and Belden, No. 510.

85. BELL, A₁GRIPPA₁ N₁ELSON₁.

The climate and mineral springs of North Carolina.

Am. Climat. Assoc., Trans., v. 10 (1895): 124-150.

—— — Sanitarian, v. 30 (1893): 521-533.

Contains physical description of the state, temperature records taken in the mountainous section, notes on climate, and list of mineral springs with analyses of the waters by W. C. Kerr, C. W. Dabney Jr., A. R. Ledoux, E. Adelmarth and E. D. Smith.

86. BELL, JOHN.

The warm and hot springs of Buncombe county.

(In his Mineral and thermal springs of the United States and Canada. Phila., Parry & McMillan, 1855. 16 cm. pp. 282-285.)

Brief description of these waters, with analysis by E. D. Smith.

87. BENEDICT, WILLIAM DE₁L₁ESSELINE₁.

Tin in North Carolina.

Mineral Industry, v. 1 (1892): 455.

Account of discovery of tin at King's Mountain, describing geological occurrence, veins and ores.

88. BENNEVILLE, JAMES S. DE.

[Analysis of beryl from Black mountain, Buncombe county, North Carolina.]

Am. Chem. Soc., Jour., v. 16 (1894): 65-66.

Abstract by L.: Chem. Soc. (London) Jour., v. 70, pt. 2 (1896): 186.

89. BERKELEY, W. N.

Analysis of paranthite from Clay county, North Carolina.

Am. Chem. Jour., v. 14 (1892): 628.

Abstract: Am. Nat., v. 27 (1893): 1091.

Abstract by L. V. Pirsson: Zts. f. Kryst. u. Min., v. 23 (1894): 505.

Abstract by C. F. Baker: Chem. Soc. (London) Jour., v. 64, pt. 2 (1893): 287.

Description and analysis of mineral from the mines of the Hiwassee Corundum Co.

90. BERRY, EDWARD W₁ILBUR₁.

Coastal-plain amber.

Torrey, v. 7 (1907): 4-6.

Discusses occurrence of amber in the cretaceous deposits near Blackman's Bluff on the Neuse river and near Parker Landing on the Tar river.

91. — Contributions to the mesozoic flora of the Atlantic coastal plain, North Carolina.

Torrey Botan. Club, Bull., v. 34 (1907): 185-205.

Enumerates and describes species of cretaceous fossil plants found in formations along the Cape Fear river.

92. — Contributions to the pleistocene flora of North Carolina.
Jour. of Geol., v. 15 (1907): 338-349.
 Contains account of discovery of two pleistocene plant beds on the Neuse river, and of specimens occurring on the Roanoke river.
93. — Cretaceous floras in North and South Carolina.
Johns Hopkins Univ. Circ., n. s., No. 7, 1907, pp. 79-82.
 Brief account of a collection of 29 species of fossil plants from localities on the Neuse and Cape Fear rivers.
94. — A mid-cretaceous species of *Torreya*.
Am. Jour. Sci., Ser. IV, v. 25 (1908): 382-386.
 Describes fossil plant locality of mid-cretaceous age on Rockfish creek in Cumberland county.
95. BIDDLE, H. J.
 Nickel ore from North Carolina.
 (*In U. S. Geol. Survey, Min. Res.*, 1886. Wash., 1887. pp. 170-171.)
 Describes nickel ore occurring near Webster.
96. BIRKINBINE, JOHN.
 Iron ores of North Carolina.
Frank. Inst., Jour., v. 126 (1888): 196.
 Notes on magnetite deposits at the Cranberry mines in western North Carolina, and on a titaniferous deposit in the central part.
97. — Manganese ores of North Carolina.
 (*In U. S. Geol. Survey, 21st Ann. Rept.*, pt. 6 (Met. Prod.). Wash., 1899-1900. p. 139.)
98. BIXBY, WILLIAM HERBERT.
 Improvement of Beaufort harbor, North Carolina.
 (*In Chief of Eng. Rept.*, 1885, pt. 2. Appendix M 5, pp. 1076-1082.)
 ——— (*In Chief of Eng. Rept.*, 1886, pt. 2. Appendix L 5, pp. 986-991.)
 ——— (*In Chief of Eng. Rept.*, 1887, pt. 2. Appendix M 6, pp. 1030-1036.)
 ——— (*In Chief of Eng. Rept.*, 1888, pt. 2. Appendix L 6, pp. 875-881.)
 Yearly reports of progress.
99. — Improvement of Black river, North Carolina.
 (*In Chief of Eng. Rept.*, 1888, pt. 2. Appendix L 9, pp. 889-893.)
 ——— (*In Chief of Eng. Rept.*, 1890, pt. 2. Appendix M 10, pp. 1145-1148.)
 ——— (*In Chief of Eng. Rept.*, 1891, pt. 2. Appendix L 17, pp. 1387-1389.)
 Yearly reports of progress.
100. — Improvement of Cape Fear river at and below Wilmington, North Carolina.
 (*In Chief of Eng. Rept.*, 1889, pt. 2. Appendix M 12, pp. 1089-1099.)

- — (In Chief of Eng. Rept., 1890, pt. 2. Appendix M 12, pp. 1152-1161.)
- — (In Chief of Eng. Rept., 1891, pt. 2. Appendix L 19, pp. 1394-1402.)
- Yearly reports of progress.
101. — Improvement of Cape Fear river below Wilmington, North Carolina.
- (In Chief of Eng. Rept., 1885, pt. 2. Appendix M 8, pp. 1087-1100.)
- — (In Chief of Eng. Rept., 1886, pt. 2. Appendix L 8, pp. 1000-1016.)
- Yearly reports of progress.
102. — Improvement of Cape Fear river, North Carolina.
- (In Chief of Eng. Rept., 1885, pt. 2. Appendix M 7, pp. 1083-1087.)
- — (In Chief of Eng. Rept., 1886, pt. 2. Appendix L 7, pp. 995-1000.)
- — (In Chief of Eng. Rept., 1887, pt. 2. Appendix M 10, pp. 1044-1061.)
- — (In Chief of Eng. Rept., 1888, pt. 2. Appendix L 10, pp. 893-911.)
- — (In Chief of Eng. Rept., 1889, pt. 2. Appendix M 11, pp. 1083-1088.)
- — (In Chief of Eng. Rept., 1890, pt. 2. Appendix M 11, pp. 1148-1152.)
- — (In Chief of Eng. Rept., 1891, pt. 2. Appendix L 18, pp. 1390-1394.)
- Yearly reports of progress.
103. — Improvement of Contentnea creek, North Carolina.
- (In Chief of Eng. Rept., 1885, pt. 2. Appendix M 1, pp. 1060-1062.)
- — (In Chief of Eng. Rept., 1886, pt. 2. Appendix L 1, pp. 973-976.)
- — (In Chief of Eng. Rept., 1887, pt. 2. Appendix M 2, pp. 1013-1016.)
- — (In Chief of Eng. Rept., 1888, pt. 2. Appendix L 2, pp. 858-862.)
- — (In Chief of Eng. Rept., 1889, pt. 2. Appendix M 3, pp. 1048-1052.)
- — (In Chief of Eng. Rept., 1891, pt. 2. Appendix L 8, pp. 1351-1355.)
- Yearly reports of progress.
104. — Improvement of harbor at Beaufort, North Carolina.
- (In Chief of Eng. Rept., 1889, pt. 2. Appendix M 7, pp. 1066-1073.)
- — (In Chief of Eng. Rept., 1890, pt. 2. Appendix M 7, pp. 1131-1138.)

- ——— (*In Chief of Eng. Rept.*, 1891, pt. 2. Appendix L 12, pp. 1367-1372.)
 Yearly reports of progress.
105. ——— Improvement of inland water-way from Beaufort harbor to New river, North Carolina, through Bogue sound.
 (*In Chief of Eng. Rept.*, 1887, pt. 2. Appendix M 7, pp. 1037-1039.)
- ——— (*In Chief of Eng. Rept.*, 1888, pt. 2. Appendix L 7, pp. 882-885.)
- ——— (*In Chief of Eng. Rept.*, 1889, pt. 2. Appendix M 8, pp. 1073-1077.)
- ——— (*In Chief of Eng. Rept.*, 1891, pt. 2. Appendix L 13, pp. 1372-1376.)
 Yearly reports of progress.
106. ——— Improvement of Mackey creek, North Carolina.
 (*In Chief of Eng. Rept.*, 1891, pt. 2. Appendix L 4, pp. 1339-1340.)
107. ——— Improvement of Neuse river, North Carolina.
 (*In Chief of Eng. Rept.*, 1885, pt. 2. Appendix M 3, pp. 1065-1069.)
- ——— (*In Chief of Eng. Rept.*, 1886, pt. 2. Appendix L 3, pp. 979-983.)
 Contains history of river improvement.
- ——— (*In Chief of Eng. Rept.*, 1887, pt. 2. Appendix M 4, pp. 1020-1026.)
- ——— (*In Chief of Eng. Rept.*, 1888, pt. 2. Appendix L 4, pp. 866-871.)
- ——— (*In Chief of Eng. Rept.*, 1889, pt. 2. Appendix M 5, pp. 1056-1060.)
- ——— (*In Chief of Eng. Rept.*, 1890, pt. 2. Appendix M 5, pp. 1122-1127.)
- ——— (*In Chief of Eng. Rept.*, 1891, pt. 2. Appendix L 10, pp. 1358-1363.)
 Yearly reports of progress.
108. ——— Improvement of New river, North Carolina.
 (*In Chief of Eng. Rept.*, 1886, pt. 2. Appendix L 6, pp. 991-995.)
- ——— (*In Chief of Eng. Rept.*, 1888, pt. 2. Appendix L 8, pp. 885-889.)
- ——— (*In Chief of Eng. Rept.*, 1890, pt. 2. Appendix M 9, pp. 1141-1145.)
- ——— (*In Chief of Eng. Rept.*, 1891, pt. 2. Appendix L 15, pp. 1379-1383.)
 Yearly reports of progress.
109. ——— Improvement of Northeast (Cape Fear) river, North Carolina.
 (*In Chief of Eng. Rept.*, 1891, pt. 2. Appendix L 16, pp. 1383-1386.)

110. — Improvement of Ocracoke inlet, North Carolina.
(*In Chief of Eng. Rept.*, 1891, pt. 2. Appendix L 5, pp. 1341-1345.)
111. — Improvement of Pamlico and Tar rivers, North Carolina.
(*In Chief of Eng. Rept.*, 1887, pt. 2. Appendix M 1, pp. 1010-1013.)
— — (*In Chief of Eng. Rept.*, 1888, pt. 2. Appendix L 1, pp. 854-858.)
— — (*In Chief of Eng. Rept.*, 1889, pt. 2. Appendix M 2, pp. 1044-1048.)
— — (*In Chief of Eng. Rept.*, 1891, pt. 2. Appendix L 7, pp. 1347-1351.)
Reports of progress.
112. — Improvement of Pasquotank river, North Carolina.
(*In Chief of Eng. Rept.*, 1891, pt. 2. Appendix L 3, pp. 1335-1338.)
113. — Improvement of Roanoke river, North Carolina and Virginia.
(*In Chief of Eng. Rept.*, 1889, pt. 2. Appendix M 1, pp. 1040-1043.)
— — (*In Chief of Eng. Rept.*, 1890, pt. 2. Appendix M 1, pp. 1106-1112.)
— — (*In Chief of Eng. Rept.*, 1891, pt. 2. Appendix L 2, pp. 1330-1335.)
Reports of progress.
114. — Improvement of the line of inland navigation from Newbern to Beaufort harbor, North Carolina, via Clubfoot, Harlowe and Newport rivers.
(*In Chief of Eng. Rept.*, 1885, pt. 2. Appendix M 4, pp. 1070-1075.)
— — (*In Chief of Eng. Rept.*, 1886, pt. 2. Appendix L 4, pp. 983-986.)
— — (*In Chief of Eng. Rept.*, 1887, pt. 2. Appendix M 5, pp. 1026-1030.)
— — (*In Chief of Eng. Rept.*, 1888, pt. 2. Appendix L 5, pp. 871-875.)
— — (*In Chief of Eng. Rept.*, 1889, pt. 2. Appendix M 6, pp. 1060-1066.)
— — (*In Chief of Eng. Rept.*, 1890, pt. 2. Appendix M 6, pp. 1127-1131.)
— — (*In Chief of Eng. Rept.*, 1891, pt. 2. Appendix L 11, pp. 1363-1367.)
Yearly reports of progress.
115. — Improvement of Trent river, North Carolina.
(*In Chief of Eng. Rept.*, 1885, pt. 2. Appendix M 2, pp. 1062-1064.)
— — (*In Chief of Eng. Rept.*, 1886, pt. 2. Appendix L 2, pp. 976-979.)
Contains history of river improvement.

- — — (*In* Chief of Eng. Rept., 1887, pt. 2. Appendix M 3, pp. 1016-1020.)
- — — (*In* Chief of Eng. Rept., 1888, pt. 2. Appendix L 3, pp. 862-865.)
- — — (*In* Chief of Eng. Rept., 1889, pt. 2. Appendix M 4, pp. 1052-1056.)
- — — (*In* Chief of Eng. Rept., 1891, pt. 2. Appendix L 9, pp. 1355-1358.)
Yearly reports of progress.
- 116. — Improvement of waterway between New river and Swansboro. North Carolina.
(*In* Chief of Eng. Rept., 1891, pt. 2. Appendix L 14, pp. 1376-1379.)
- 117. — Improvement of Yadkin river, North Carolina.
(*In* Chief of Eng. Rept., 1887, pt. 2. Appendix M 11, pp. 1061-1065.)
— — — (*In* Chief of Eng. Rept., 1888, pt. 2. Appendix L 12, pp. 917-920.)
— — — (*In* Chief of Eng. Rept., 1889, pt. 2. Appendix M 13, pp. 1099-1102.)
— — — (*In* Chief of Eng. Rept., 1890, pt. 2. Appendix M 13, pp. 1161-1165.)
— — — (*In* Chief of Eng. Rept., 1891, pt. 2. Appendix L 21, pp. 1404-1407.)
Yearly reports of progress.
- 118. — Preliminary examination and survey of Fishing creek, North Carolina.
(*In* Chief of Eng. Rept., 1890, pt. 2. Appendix M 17, pp. 1179-1181.)
— — — U. S. 51st Cong., 1st Sess., 1890. House Doc. No. 32. 4 pp.
- 119. — Preliminary examination and survey of the Northeast (Cape Fear) river, North Carolina.
(*In* Chief of Eng. Rept., 1890, pt. 2. Appendix M 18, pp. 1181-1184.)
— — — U. S. 51st Cong., 1st Sess., 1890. House Doc. No. 35. 5 pp.
- 120. — Preliminary examination of Black river, North Carolina.
(*In* Chief of Eng. Rept., 1885, pt. 2. Appendix M 17, pp. 1145-1154.)
Describes river in detail.
- 121. — Preliminary examination of Bogue sound, between New river and Beaufort, North Carolina.
(*In* Chief of Eng. Rept., 1885, pt. 2. Appendix M 15, pp. 1133-1139.)
— — — U. S. 48th Cong., 2d Sess., 1885. House Doc. No. 258. 9 pp.

122. — Preliminary examination of Cape Fear river, North Carolina, from Wilmington to the ocean, with an estimate of the cost of its improvement with a navigable channel twenty feet deep at mean low water.
(*In Chief of Eng. Rept.*, 1889, pt. 2. Appendix M 22, pp. 1132-1134.)
123. — Preliminary examination of Catawba river, North Carolina.
(*In Chief of Eng. Rept.*, 1888, pt. 2. Appendix L 20, pp. 958-968.)
— — (*In U. S. 50th Cong.*, 1st Sess., 1888. House Ex. Doc. No. 58, pp. 83-87.)
124. — Preliminary examination of Drum inlet, North Carolina.
(*In Chief of Eng. Rept.*, 1891, pt. 2. Appendix L 27, pp. 1425-1429.)
— — U. S. 51st Cong., 2d Sess., 1891. House Doc. No. 164. 5 pp.
125. — Preliminary examination of Lockwood's Folly river, North Carolina.
(*In Chief of Eng. Rept.*, 1887, pt. 2. Appendix M 20, pp. 1099-1102.)
Report of examination and survey of this river. Maps.
126. — Preliminary examination of Lumber river, North Carolina.
(*In Chief of Eng. Rept.*, 1887, pt. 2. Appendix M 21, pp. 1102-1106.)
Describes condition of river.
127. — Preliminary examination of Mackey's creek, North Carolina.
(*In Chief of Eng. Rept.*, 1889, pt. 2. Appendix M 24, pp. 1137-1139.)
128. — Preliminary examination of Northeast branch of Cape Fear river, North Carolina.
(*In Chief of Eng. Rept.*, 1885, pt. 2. Appendix M 14, pp. 1128-1132.)
— — (*In U. S. 48th Cong.*, 2d Sess., 1885. House Doc. No. 71, pp. 79-81.)
Description of the stream, the region, and statistics of commerce are given.
129. — Preliminary examination of Ocracoke inlet, North Carolina.
(*In Chief of Eng. Rept.*, 1889, pt. 2. Appendix M 18, pp. 1118-1124.)
Describes various bars and inlets along the coast, among them Ocracoke inlet, and gives notes and tables of measurements of Currituck, Albemarle and Core sounds, and of the rivers which enter them, with their facilities for commerce.
130. — Preliminary examination of Pasquotank river, above the mouth of Turner's cut, North Carolina.
(*In Chief of Eng. Rept.*, 1889, pt. 2. Appendix M 23, pp. 1135-1137.)
Description of river and table of general features and distances.

131. — Preliminary examination of Shallotte river, North Carolina.
(*In Chief of Eng. Rept.*, 1890, pt. 2. Appendix M 19, pp. 1184-1188.)
- — U. S. 51st Cong., 1st Sess., 1890. House Doc. No. 78. 5 pp.
132. — Preliminary examination of Swift creek, North Carolina.
(*In Chief of Eng. Rept.*, 1889, pt. 2. Appendix M 17, pp. 1116-1118.)
133. — Preliminary examination of the Tar river from Tarborough to Rocky Mount, North Carolina.
(*In Chief of Eng. Rept.*, 1889, pt. 2. Appendix M 21, pp. 1130-1131.)
Describes the river and gives table of distances and general features.
134. — Preliminary examination of Trent river from Trenton to Upper Quaker bridge, North Carolina.
(*In Chief of Eng. Rept.*, 1889, pt. 2. Appendix M 25, pp. 1140-1142.)
Describes river and gives table of distances and general features.
135. — Preliminary examination of waterway between New river and Swansborough, North Carolina.
(*In Chief of Eng. Rept.*, 1889, pt. 2. Appendix M 19, pp. 1124-1127.)
Description of navigation of this river.
136. — Preliminary examination of waterway between Pamlico river and Bay river, North Carolina.
(*In Chief of Eng. Rept.*, 1891, pt. 2. Appendix L 26, pp. 1421-1425.)
- — U. S. 51st Cong., 2d Sess., 1891. House Ex. Doc. No. 162. 5 pp.
Describes three routes used from Pamlico river to Bay river, discusses possibilities of these and a proposed canal route from river to river via Goose creek.
137. — Preliminary examination of White Oak river, from Roberts' Landing to Collins' Crossing, North Carolina.
(*In Chief of Eng. Rept.*, 1891, pt. 2. Appendix L 29, pp. 1434-1435.)
- — U. S. 51st Cong., 2d Sess., 1891. House Doc. No. 97. 3 pp.
138. — Preliminary examination of White Oak river, North Carolina.
(*In Chief of Eng. Rept.*, 1889, pt. 2. Appendix M 20, pp. 1127-1129.)
Describes White Oak river, and gives table of distances and general features.
139. — Preliminary examination of Yadkin river from South Carolina line to the Narrows, North Carolina.
(*In Chief of Eng. Rept.*, 1888, pt. 2. Appendix L 19, pp. 948-958.)

— — (In U. S. 50th Cong., 1st Sess., 1888. House Ex. Doc. No. 58, pp. 80-83.)

140. BLAKE, W_[ILLIAM] P_[HIPPS].

The hydraulic process of mining in North Carolina.

Min. Mag., Ser. II, v. 1 (1860): 55.

Contains full description of the hydraulic process, introduced into North Carolina (1857-59) by Dr. M. H. Van Dyke.

141. — Note on zircons in Unaka magnetite.

Am. Inst. Min. Eng., Trans., v. 7 (1878): 76.

Notes on magnetic iron ores from the Rhee and Wilder land, Unaka mountains, Tennessee, and North Carolina.

142. — Notes and recollections concerning the mineral resources of northern Georgia and western North Carolina.

Am. Inst. Min. Eng., Trans., v. 25 (1895): 796-811.

Contains much historical and statistical data relating to early mining in western North Carolina, with descriptions of the gold fields and mines, silver mines and other mineral deposits.

143. — Notes upon the geology and minerals of the Cherokee valley, Valley river, North Carolina.

Min. Mag., Ser. II, v. 2 (1861): 80-84.

Describes rock and mineral deposits of the Cherokee valley.

144. — Report on the property of the Valley River gold company.

Min. Mag., Ser. II, v. 1 (1860): 461-466.

Describes this property situated in Valley river. Contains statistical and historical data, and recommendations as to working the mines.

145. — Report upon the gold placers of Lumpkin county, Georgia, and the practicability of working them by the hydraulic method. New York, John F. Trow, 1858. 39 pp. 20 cm.

— — Min. & Stat. Mag., v. 10 (1858): 457-476.

Contains general references to hydraulic mining in Burke and McDowell counties.

146. — Silver glance from North Carolina.

Min. Mag., Ser. II, v. 1 (1860): 480.

Describes silver sulphide occurring at the Silver Hill mine, Davidson county.

147. — Silver Hill mine of North Carolina.

(In his Silver ores and silver mines. . . New Haven, Office of Min. Mag., 1861. 23 cm. pp. 67-68.)

148. — Tin in _[North Carolina].

(In U. S. Geol. Survey, Min. Res., 1883-1884. Wash., 1885. p. 601.)

Notes on discovery of tin ore in 1883 in Cleveland county, near King's Mountain.

149. BLANEY, G.

Report of examination of Cape Fear river below Wilmington. . .

MSS. U. S. War Dept., Office of Chief of Engineers, Wash., D. C. 5 pp.

150. BLOME, RICHARD.

A description of Carolina.

(*In his* Description of the island of Jamaica, with the other isles and territories in America . . . London, 1672. 14 cm. pp. 125-138. Map.)

—— ——— (*In his* The present state of his Majestie's isles and territories in America . . . London, 1687. 19 cm. pp. 150-182. Map.)

Contains notes on climate, soil, rivers and general conditions of Carolina.

151. BÖHM, C. RICHARD.

Monazite sand.

Eng. & Min. Jour., v. 81 (1906): 842.

Describes monazite region and deposits in Burke, McDowell, Rutherford, Cleveland and Polk counties.

152. BOLLES, CHARLES P.

Topographic re-survey of the shores of the Cape Fear entrances and adjacent islands.

(*In* U. S. Coast Survey, Rept., 1858. Wash., 1859. Appendix No. 14. p. 151.)

BOLTON, HENRY CARRINGTON.

Notice of the microscopical examination of a series of ocean, lake, river and desert sands.

See Julien and Bolton, No. 942.

153. BOLTWOOD, BERTRAM BORDEN.

On the radio-activity of uranium minerals.

Am. Jour. Sci., Ser. IV, v. 25 (1908): 269-298.

Reports of experiments conducted upon uraninite from Spruce Pine, Mitchell county.

154. ——— On the ratio of radium to uranium in some minerals.

Am. Jour. Sci., Ser. IV, v. 18 (1904): 97-103.

Abstract by A. S. Eakle: Zts. f. Kryst. u. Min., v. 42 (1906): 297.

Contains results of chemical experiments upon various minerals; among them are uraninite, gummite, uranophane and samarskite from North Carolina.

155. ——— On the ultimate disintegration products of the radio-active elements.

Am. Jour. Sci., Ser. IV, v. 20 (1905): 253-267.

Uraninite, monazite, gummite and uranophane from North Carolina are used, among other minerals, in experiments described in this article.

156. ——— On the ultimate disintegration products of the radio-active elements. Pt. II, The disintegration products of uranium.

Am. Jour. Sci., Ser. IV, v. 23 (1907): 77-88.

Presents results of chemical experiments on uraninite from Flat Rock and Spruce Pine.

157. — The origin of radium.
 Phil. Mag., Ser. VI, v. 9 (1905): 599-613.
 Describes experiments in which the following North Carolina minerals are used: uraninite, gummite, uranophane, thorogummite, samarskite, monazite and allanite.
158. — The radio-activity of thorium minerals and salts.
 Am. Jour. Sci., Ser. IV, v. 21 (1906): 415-426.
 Contains results of experiments upon uraninite from North Carolina.
- The relative proportion of radium and uranium in radioactive minerals.
 See Rutherford and Boltwood, No. 1599.
159. BOND, JAY F.
 Report on an examination of the sand banks along the North Carolina coast.
 (In Pratt, Joseph Hyde. N. C. Geol. & Econ. Survey, Biennial report of the State Geologist, 1907-1908. Raleigh, 1908. pp. 42-48.)
 Description of these sand banks, outlining damage being done by drifting sands, and plan for protection.
160. BOOTH, JAMES CURTIS.
 Analysis of various ores of lead, silver, copper, zinc, iron, etc., from King's mine, Davidson county, North Carolina.
 Am. Jour. Sci., Ser. I, v. 41 (1841): 348-352.
 Abstract: Neues Jahr. f. Min., 1843, pp. 210-213.
 Account of the mineral property of the Washington mining company, with analyses of various ores.
161. BORDEN, JOHN L.
 Magnetite from Orange county.
 Elis. Mit. Sci. Soc., Jour., v. 1 (1884): 87.
 Analysis of magnetite from near Chapel Hill.
162. — Solubility of North Carolina phosphate rock.
 Elis. Mit. Sci. Soc., Jour., v. 1 (1884): 53-54.
 Analyses of two specimens of phosphate rock.
163. BOUDINOT, ELIAS.
 Report of director of the mint for 1804.
 (In Am. State Papers, Finance, v. 2, 1805. Wash., 1832. pp. 118-119.)
 Notes on produce of gold from Cabarrus county.
164. BOUTELLE, C. O.
 [New inlets formed across Bodie's island, North Carolina, in 1846.]
 (In U. S. Coast Survey, Rept., 1847. Wash., 1848. Appendix 13, pp. 76-77.)
- — (In U. S. Coast Survey, Rept., 1849. Wash., 1849. Appendix 16, pp. 106-107.)

165. BOWRON, WILLIAM M.
The practical metallurgy of titaniferous iron ores.
Am. Inst. Min. Eng., Trans., v. 11 (1882): 159-164.
Contains analyses of four magnetites from North Carolina.
166. BOYD, CHARLES, RUFUS.
Conrad Hill, N. C., gold and copper mine.
The Virginias, v. 3 (1882): 176.
Letter describing developments at this mine.
167. — Mineral resources of Ashe and Alleghany counties, North Carolina.
(*In his Resources of southwest Virginia . . .* Ed. 3. New York, John Wiley & Sons, 1881. 24 cm. pp. 311-320. Map.)
Describes physical features of these counties and outlines rock formations, copper veins, magnetic ore veins. Describes Ore Knob, Copper Knob, Elk Knob and Peach Bottom copper mines, and gives notes on development and production.
168. — The mineral wealth of southwestern Virginia.
Am. Inst. Min. Eng., Trans., v. 5 (1876): 81-92; v. 8 (1880): 338-344.
Describes mineral resources of Ashe, Alleghany and Watauga counties in North Carolina, where are located the Ore Knob and Elk Knob copper mines.
169. — The utilization of the iron and copper sulphides of Virginia, North Carolina and Tennessee.
Am. Inst. Min. Eng., Trans., v. 14 (1885): 81-84.
Discusses in general way the distribution of these ores at Ore Knob, Ashe county, and suggests possible methods of handling them.
170. BOYLE, CORNELIUS BRECKINRIDGE.
A catalogue and bibliography of North American mesozoic invertebrata.
U. S. Geol. Survey, Bull. 102. Wash., 1893. 315 pp. 23 cm.
Contains list of North Carolina forms from the cretaceous, giving literature references from Conrad, White, Morton and others.
171. BOYLE, ESMERALDA.
The mountain slopes and river banks of North Carolina.
Overland Monthly, Ser. II, v. 1 (1883): 536-540.
Popular account of a journey from Asheville, Buncombe county to Caesar's Head, Greenville county, South Carolina, with notes on scenery, climate and topography.
172. BRADFORD, J. S.
Hydrographic changes at the entrance of Cape Fear river, North Carolina.
(*In U. S. Coast Survey, Rept.*, 1865. Wash., 1866. Appendix 5, p. 45.)
Describes the few changes that have taken place at the western entrance.

173. BRADLEY, FRANK HOWE₁.

Note on the occurrence of metamorphic silurian rocks in North Carolina.

Am. Jour. Sci., Ser. III, v. 8 (1874): 390.

Discusses origin of the metamorphic rocks of the southwestern corner of North Carolina.

174. ——— Note on the recent earthquakes of Bald mountain in Rutherford county, North Carolina.

Am. Jour. Sci., Ser. III, v. 8 (1874): 79.

175. ——— On a "Geological chart of the United States east of the Rocky mountains, and of Canada."

Am. Jour. Sci., Ser. III, v. 12 (1876): 286-291.

Refers briefly to the triassic in North Carolina.

176. ——— On the silurian age of the southern Appalachians.

Am. Jour. Sci., Ser. III, v. 9 (1875): 279-288; 370-383.

Description of rocks in North Carolina south and west of the little Tennessee river, with evidence and arguments to show that they are of silurian age.

177. ——— On unakyte, an epidotic rock from the Unaka range on the borders of Tennessee and North Carolina.

Am. Jour. Sci., Ser. III, v. 7 (1874): 519-520.

Describes a member of the granitic series found in the Unaka mountains in Madison county.

178. BRAZIER, ROBERT.

Report on the drainage of the Big Swamp in Robeson county.

(*In Reports relative to the swamp lands in North Carolina.*

Raleigh, Lawrence & Lemay, 1827. 22 cm. pp. 25-28.)

——— (*In North Carolina, Board of Internal Improvement. Extracts from "Reports on public improvements" in North Carolina. Raleigh, T. J. Lemay, 1837. 21½ cm. pp. 33-36.*)

Describes the swamp lands of Robeson and Halifax counties, suggests possible methods of drainage and estimates cost.

179. BREZINA, ARISTIDES.

Ankauf der Hidden'schen Meteoriten-und Mineraleinsammlung für die mineralogische Abtheilung.

Ann. des K. K. Naturhist. Hofmus. Wien, v. 4 (1889): 85-87.

Notice of the purchase of the Hidden collection of minerals and meteorites together with very brief descriptions of some of the most important minerals. The collection represented largely North Carolina material.

180. ——— Die Meteoritensammlung des k. k. naturhistorischen Hofmuseums, am I Mai, 1895.

Ann. d. K. K. Naturhist. Hofmus. Wien, v. 10 (1895): 231-370.

Contains brief descriptive notes on Bridgewater, Linnville, Lick Creek, Jewell Hill (Duel Hill), Cross Roads and Smith Mountain meteorites which are in the Hofmuseum collection of Vienna. Figures the Duel Hill meteorite.

181. — Meteoritenstudien III. Zur Frage der Bildungsweise eutropischer Gemenge.
K. Akad. d. Wiss. Denks. Math.-Naturwiss. Klasse, v. 78 (1905): 635-641.
A detailed study of eutropic masses, in which is given a description and microphotograph of the Jewell Hill meteorite.
182. — [Notice of meteorites from Duel Hill, Madison county, and Lick creek, Davidson county.]
(In Bericht über neue oder wenig bekannte Meteoriten. K. K. Akad. d. Wiss. Sitz. Wien, v. 84, pt. 1 (1881): 279-281.)
183. — and COHEN, E[MIL].
Oktaedrisches Eisen mit feinen Lamellen. Jewell Hill-gruppe: Jewell Hill.
(In their Die Struktur und Zusammensetzung der Meteoriten. Stuttgart, 1886-1906; v. 1, Tafel XXIII; and Erklärung.)
184. BRICKELL, JOHN.
The natural history of North Carolina. . . Dublin, James Carson, 1737. 408 pp. 21 cm. Map.
Contains notes on climate, swamps, rivers and soils. "An almost verbal transcript of Lawson's History of North Carolina." (cf. No. Amer. Review, v. 23, pp. 288-289.)
185. Brief statement of the North Carolina Gas-coal Company, with report of Charles T. Jackson, and of Oswald Heinrich. . . Phila., M. P. Williams, 1856. 26 pp. 22 cm.
Contains reports on the Fooshee's and Streets' plantations on Deep river. See under authors.
186. BRINTON, D[ANIEL] G[ARRISON].
The aboriginal mica-mines of North Carolina.
Phila. Numismatic & Antiquarian Soc., Proc., 1879, pp. 18-19.
Describes specimens of implements used by the aborigines in working the mica mines, and gives notes on the use of mica by the Indians.
187. BRITTON, N[ATHANIEL] L[ORD].
Geological notes in western Virginia, North Carolina, and eastern Tennessee.
N. Y. Acad. Sci., Trans., v. 5 (1887): 215-223.
Describes Cranberry iron mine at Cranberry, geology, veins, ores and mining methods. Notes on physical and mineralogical features of valley of the French Broad river, Warm Springs and Asheville.
188. BROWN, C. BARRINGTON.
Report on the Cowee Valley ruby mines in North Carolina.
(In The American Prospecting and Mining Company. Reports upon the property. New York, 1899. 27 cm. pp. 21-30.)
Describes the ruby-bearing tract situated in Cowee Creek valley, Macon county, discovery and mode of occurrence of the ruby, and mining developments.

189. BROWN, EARL I.

Improvement of Beaufort inlet, North Carolina.

(In Chief of Eng. Rept., 1907, pt. 2. Appendix M 9, pp. 1235-1236.)—— ——— *(In Chief of Eng. Rept., 1908, pt. 2. Appendix M 9, pp. 1290-1291.)*

Reports of progress.

190. ——— Improvement of Cape Fear river, North Carolina, at and below Wilmington.

(In Chief of Eng. Rept., 1907, pt. 2. Appendix M 12, pp. 1246-1252.)—— ——— *(In Chief of Eng. Rept., 1908, pt. 2. Appendix M 12, pp. 1300-1307.)*

191. ——— Improvement of Contentnia creek, North Carolina.

(In Chief of Eng. Rept., 1907, pt. 2. Appendix M 4, pp. 1226-1227.)—— ——— *(In Chief of Eng. Rept., 1908, pt. 2. Appendix M 4, p. 1282.)*

192. ——— Improvement of Fishing creek, North Carolina.

(In Chief of Eng. Rept., 1907, pt. 2. Appendix M 2, pp. 1223-1224.)—— ——— *(In Chief of Eng. Rept., 1908, pt. 2. Appendix M 2, p. 1279.)*

193. ——— Improvement of harbor at Beaufort, North Carolina.

(In Chief of Eng. Rept., 1907, pt. 2. Appendix M 8, pp. 1233-1235.)—— ——— *(In Chief of Eng. Rept., 1908, pt. 2. Appendix M 8, pp. 1288-1290.)*

194. ——— Improvement of Neuse and Trent rivers, North Carolina.

(In Chief of Eng. Rept., 1907, pt. 2. Appendix M 5, pp. 1228-1231.)—— ——— *(In Chief of Eng. Rept., 1908, pt. 2. Appendix M 5, pp. 1283-1286.)*

195. ——— Improvement of Northeast (Cape Fear) and Black rivers, and Cape Fear river above Wilmington, North Carolina.

(In Chief of Eng. Rept., 1907, pt. 2. Appendix M 11, pp. 1240-1246.)—— ——— *(In Chief of Eng. Rept., 1908, pt. 2. Appendix M 11, pp. 1296-1300.)*

196. ——— Improvement of Pamlico and Tar rivers, North Carolina.

(In Chief of Eng. Rept., 1907, pt. 2. Appendix M 3, pp. 1224-1226.)—— ——— *(In Chief of Eng. Rept., 1908, pt. 2. Appendix M 3, pp. 1280-1281.)*

197. ——— Improvement of Scuppernong river, North Carolina.

(In Chief of Eng. Rept., 1907, pt. 2. Appendix M 1, pp. 1222-1223.)

- ——— (*In Chief of Eng. Rept., 1908, pt. 2. Appendix M 1, pp. 1277-1279.*)
198. ——— Improvement of Shallotte river, North Carolina.
(*In Chief of Eng. Rept., 1908, pt. 2. Appendix M 13, pp. 1307-1308.*)
199. ——— Improvement of waterway between Newbern and Beaufort, North Carolina.
(*In Chief of Eng. Rept., 1907, pt. 2. Appendix M 7, pp. 1232-1233.*)
- ——— (*In Chief of Eng. Rept., 1908, pt. 2. Appendix M 7, pp. 1287-1288.*)
200. ——— Inland waterway from Pamlico sound to Beaufort inlet, North Carolina.
(*In Chief of Eng. Rept., 1907, pt. 2. Appendix M 6, pp. 1231-1232.*)
- ——— (*In Chief of Eng. Rept., 1908, pt. 2. Appendix M 6, p. 1286.*)
201. ——— New river, including inland waterways between Beaufort harbor and New river, and between New river and Swansboro, North Carolina.
(*In Chief of Eng. Rept., 1907, pt. 2. Appendix M 10, pp. 1236-1240.*)
- ——— (*In Chief of Eng. Rept., 1908, pt. 2. Appendix M 10, pp. 1291-1296.*)
202. ——— Preliminary examination of Beaufort harbor, North Carolina.
U. S. 60th Cong., 2d Sess., 1909. House Ex. Doc. No. 1454.
9 pp. Map.
203. ——— Preliminary examination of New river, North Carolina, from its mouth to Jacksonville.
U. S. 60th Cong., 2d Sess., 1909. House Ex. Doc. No. 1085.
10 pp.
204. ——— Preliminary examination of Shallowbag bay, North Carolina, at its mouth.
U. S. 60th Cong., 1st Sess., 1908. House Ex. Doc. No. 906.
11 pp. Map.
205. ——— Preliminary examination of South river, North Carolina, from its mouth to Aurora.
U. S. 60th Cong., 1st Sess., 1908. House Ex. Doc. No. 954.
8 pp. Map.
206. ——— Preliminary examination of Trent river, North Carolina, from Newbern to Trenton.
U. S. 60th Cong., 2d Sess., 1909. House Ex. Doc. No. 1471.
11 pp.
Describes river and country through which it flows.

207. — Preliminary examination of waterway connecting Swan Quarter bay with Deep bay, North Carolina.
U. S. 60th Cong., 1st Sess., 1908. House Ex. Doc. No. 445. 7 pp.
208. — Preliminary examination of White Oak river, North Carolina, from its mouth to Maysville.
U. S. 60th Cong., 1st Sess., 1908. House Ex. Doc. No. 401. 5 pp.
209. — Re-examination of Cape Fear river above Wilmington, North Carolina, with a view to modification of the existing project of improvement.
U. S. 60th Cong., 1st Sess., 1908. House Doc. No. 890. 11 pp.
210. BROWN, JAMES T.
Report on property of the Cabarrus gold mining company, Cabarrus county, North Carolina. n. p. 1865. 15 pp. 22 cm. Map.
Describes this property, its veins and ores. Contains brief notes by Ernest Heiser explanatory of map.
211. BROWN, LUCIUS P.
Phosphate deposits of [North Carolina].
(In *his Phosphate deposits of the Southern States*. Eng. Assoc. South, Trans., v. 15 (1904). 121.)
Describes phosphate mining at Castle Hayne, New Hanover county, and in Duplin, Samson, Columbus and Bladen counties.
- BROWN, W. G.
Composition of certain mesozoic igneous rocks of Virginia.
See Campbell and Brown, No. 232.
212. BRUCE, J[AMES] D[UGLAS].
Analysis of cassiterite from King county [King's Mt.], N. C.
Chem. News, v. 50 (1884): 209.
Abstract by D. A. Louis; Chem. Soc. (London) Jour., v. 48 (1885): 126.
213. BRUSH, G[EORGE] J[ARVIS].
[Description and analysis of pyrophyllite from North Carolina].
(In *Am. Jour. Sci.*, Ser. II, v. 34 (1862): 218-219.)
Abstract: *Jahresber. d. Chem.*, 1862, pp. 744-745.
Analyses of two specimens of pyrophyllite: No. 1, a so-called soapstone from Deep river, Moore county, by Samuel T. Tyson; No. 2, from Carabonton, Moore county, by F. A. Genth.
- [Lazulite and kyanite from North Carolina].
See Smith, J. L., and Brush, No. 1676.
214. BUCHNER, OTTO.
Die Feuermeteorite. . . Giessen, 1859. 192 pp. 21½ cm.
Notes on following meteorites from North Carolina; Black Mountain, p. 134; Charlotte, p. 99; Gullford, p. 136; Haywood, p. 129; Hominy creek, p. 135.

215. — Die Meteoriten in Sammlungen. . . Leipzig, 1863. 202 pp.
24 cm.

Brief account of following North Carolina meteorites:
Asheville, Black Mountain, Cabarrus county, Caswell
county, Guilford county, Haywood county, Hominy Creek,
Jewell (Duel) Hill, Randolph county.

216. BUCKINGHAM, J_[AMES] S_[ILK].

History of the state of North Carolina.

(*In his* The slave states of America. London, Fisher, Son &
Co., 1842. vol. 2, chap. 9. pp. 215-224.)

Notes on the agriculture, climate and mineral resources,
describing the gold region and condition of mining.

217. BUCKLEY, S_[AMUEL] B_[OTSFORD].

Mountains of North Carolina and Tennessee.

Am. Jour. Sci., Ser. II, v. 27 (1859): 286-294.

Rev: DeBow's Review, v. 26 (1859): 702-706.

Gives altitudes of mountains, describes scenery, geology,
botany, agriculture and climate of region.

BUCKLEY, THOMAS C.

Statement of the McCulloch copper and gold mining com-
pany of Guilford county, North Carolina.

See Palmer and Buckley, No. 1382.

- 218. BURBANK, L_[EVI] S_[UMNER].

Observations on the surface geology of North Carolina with
special reference to some phenomena of the drift of the
northern United States.

Bost. Soc. Nat. Hist., Proc., v. 16 (1873): 150-155.

Describes boulders of residual decay from observations
made in Wake, Granville, Franklin, Guilford and Chatham
counties. Notice of granite veins observed containing
fine crystals of beryl and tourmaline.

219. BURCHARD, ERNEST F.

[Barite in North Carolina in 1907.]

(*In* U. S. Geol. Survey, Min. Res., 1907, pt. 2. p. 689.)

Cites J. H. Pratt (N. C. Geol. Survey, Econ. Paper, No. 6.
1902, pp. 62-66) regarding origin and structure of barite
veins. Describes operations at the Lawton mine in
Gaston county.

220. BURCHARD, H_[ORATIO] C.

[Production of precious metals in North Carolina.]

(*In* U. S. Mint, Prod. of precious metals in U. S. in 1881.
Wash., 1882. pp. 458-468.)

— — — (*In* U. S. Mint, Prod. of precious metals in U. S. in 1882.
Wash., 1883. pp. 619-637.)

— — — (*In* U. S. Mint, Prod. of precious metals in U. S. in 1883.
Wash., 1884. pp. 644-655.)

— — — (*In* U. S. Mint, Prod. of precious metals in U. S. in 1884.
Wash., 1885. pp. 437-442.)

Yearly reports of production.

221. BURKART.

Ueber das Vorkommen verschiedener Tellur-Mineralen in den Vereinigten Staaten von Nordamerika.

Neues Jahr. f. Min., 1873, pp. 476-495.

Review of work done on various specimens of tetradyomite, including one discovered by F. A. Genth near the Washington mine, Davidson county, and another from Cabarrus county, Phoenix mine.

222. BURNHAM, STARRAH MARIA.

Precious stones in nature, art and literature. Boston,

Bradlee Whidden, 1886. 400 pp. 23½ cm.

Contains numerous references to North Carolina stones, including beryl, hiddenite, diamond, corundum gems and monazite.

223. BURR, EDWARD.

Improvement of inland water route from Norfolk, Virginia, to Albemarle sound. North Carolina, through Currituck sound.

(In Chief of Eng. Rept., 1892, pt. 2. Appendix K 7, pp. 1094-1096.)

—— ——— (In Chief of Eng. Rept., 1894, pt. 2. Appendix K 6, pp. 983-985.)

Reports of progress.

224. ——— Improvement of North Landing river Virginia and North Carolina.

(In Chief of Eng. Rept., 1892, pt. 2. Appendix K 7, pp. 1343-1344.)

225. BURTON, B. S.

Notice of a meteorite from Madison county, North Carolina.

Am. Jour. Sci., Ser. III, v. 12 (1876): 439.

Abstract: Jahresber. d. Chem., 1876, p. 1317

Analysis: Cohen u. Weinschenk., Meteoreisen-Studien Anna-
len des K. K. Naturhist. Hofmus. Wien, 1891, p. 161.

Description and analysis of meteoric iron found at Duel
(?) Hill, Madison county, August, 1873.

226. BYRD, WILLIAM.

History of the dividing line between Virginia and North Carolina, as run in 1728-1729. (Printed from original manuscript.) Richmond, privately printed, 1866, v. 1. 30 cm.

—— ——— (In The Westover manuscripts: containing the history of the dividing line betwixt Virginia and North Carolina. . . . Petersburg, Va., E. & J. C. Ruffin, 1841. 25 cm. pp. 1-102.)

—— ——— (In The writings of Colonel William Byrd of Westover in Virginia Esq. Ed. by J. S. Bassett, N. Y. Doubleday, 1901. pp. 1-277.)

Account of survey made by commissioners from both North Carolina and Virginia, to settle dispute as to boundary between the states concerning Weyanoke creek. Contains notes on climate, soil and general conditions of country.

227. C.

Remarkable meteor at Fayetteville, N. C.

Am. Jour. Sci., Ser. I, v. 49 (1845): 408.

Notice: *Ann. d. Phy. u. Chem., Ergänzz., Bd. II, 1848, p. 367.*

Account of meteor falling Sept. 1, 1845, 2 a. m.

CAIN, WILLIAM.

Road materials and road construction in North Carolina.

See Holmes and Cain, No. 848.

228. CAINE, THOMAS A.

Soil survey of the Hickory area, North Carolina.

(*In U. S. Dept. Agric., Field operations, Bureau of Soils, 4th Rept., 1902. Wash., 1903. pp. 239-258. Plate. Map.*)

Describes physiography, geology and soils of this area, and gives analyses of ten varieties of soils.

229. — and MANGUM, A. W.

Soil survey of the Mt. Mitchell area, North Carolina.

(*In U. S. Dept. Agric., Field operations, Bureau of Soils, 4th Rept., 1902. Wash., 1903. pp. 259-271. Plate. Map.*)

Notes on physiography, geology and climate of this area in Mitchell and Yancey counties and parts of Madison, Buncombe and McDowell. Describes and gives analyses of soils of the area.

230. CAMERON, JOHN D.

Old map of North Carolina.

N. C. Univ. Mag., Ser. IV, v. 10 (1891): 153-157.

Describes an old map in the possession of Mr. J. C. Hoyt of Buncombe county. No date of publication appears but it evidently was issued between 1755 and 1765. North Carolina is shown as a colonial possession. The coast had been accurately surveyed and the interior is clearly mapped as far as exploration and settlement had gone, with the rivers, counties and towns.

231. — Western North Carolina. Its area, topography and characteristics.

(*In Western North Carolina . . . Charlotte, N. C., 1890. pp. 57-81.*)

232. CAMPBELL, H. D. and BROWN, W. G.

Composition of certain mesozoic igneous rocks of Virginia.

Geol. Soc. Amer., Bull., v. 2 (1891): 339-347.

Deals with a problem common to Virginia and North Carolina, the composition of trap rock, and mentions previous work on North Carolina rocks by E. S. Dana.

233. CAMPBELL, MARIUS R.

Drainage modifications and their interpretation.

Jour. of Geol., v. 4 (1896): 567-581; 657-678.

Discusses Appalachian drainage systems in a general way and cites some of the North Carolina river systems, including the French Broad, Catawba and Yadkin rivers.

— Geomorphology of the Southern Appalachians.

See Hayes and Campbell, No. 723.

234. The Cape Fear and Yadkin Valley railway (from Mt. Airy at the base of the Blue Ridge to Wilmington, N. C.) . . . embracing descriptive and statistical notes . . . and mineral resources. Phila., Allen, Lane & Scott, 1889. 119 pp. 27 cm. Map.
Contains notes on mineral resources of route.
235. CAPUTALBUM.
A trip to Mt. Mitchell.
Wake Forest Student, v. 5 (1886): 195-203.
Popular account of ascent of Mt. Mitchell, notes on scenery and climate.
236. CARPENTER, F. B.
The marls and phosphates of North Carolina.
N. C. Agric. Exp. Station, Bull. 110. Raleigh, 1894. 48 pp. 23 cm.
Deals with geology, distribution and uses of marls and phosphates. Describes and gives analyses of many varieties.
237. CARPENTER, FRANK O.
The Great Smoky mountains and Thunderhead peak.
Appalachia, v. 6 (1890): 138-146.
Popular account of travel through the Great Smoky mountains in North Carolina.
238. CARR, ELIAS.
North Carolina's resources.
Southern States, v. 1 (1893): 149-152.
Notes on general resources of the state.
239. ——— Resources and advantages of North Carolina. Raleigh, Josephus Daniels, 1893. 22 pp. Plates. 20 cm.
240. ——— Topography, climate and resources of North Carolina.
Health, Sanitation and Climatology of the Southern States, v. 1 (1895): 50-54.
Describes physical features, climate and soils of the state.
241. CASEY, THOMAS L_INCOLN_J.
Improvement of inland water route from Norfolk, Va. to Albemarle sound, North Carolina, through Currituck sound.
(In Chief of Eng. Rept., 1895, pt. 2. Appendix J 6, pp. 1286-1289.)
——— (In Chief of Eng. Rept., 1896, pt. 2. Appendix J 6, pp. 1077-1079.)
——— (In Chief of Eng. Rept., 1897, pt. 2. Appendix K 7, pp. 1374-1376.)
——— (In Chief of Eng. Rept., 1898, pt. 2. Appendix L 7, pp. 1230-1232.)
——— (In Chief of Eng. Rept., 1899, pt. 2. Appendix L 9, pp. 1481-1482.)
Reports of progress.

242. — Improvement of North Landing river, Virginia and North Carolina.
 (*In Chief of Eng. Rept., 1896, pt. 2. Appendix J 7, pp. 1079-1080.*)
 — — (*In Chief of Eng. Rept., 1897, pt. 2. Appendix K 8, pp. 1376-1377.*)
 Reports of progress.
243. — Improvement of Pasquotank river, North Carolina.
 (*In Chief of Eng. Rept., 1898, pt. 2. Appendix L 9, pp. 1233-1234.*)
244. — Improvement of Roanoke river, North Carolina.
 (*In Chief of Eng. Rept., 1895, pt. 2. Appendix J 8, pp. 1290-1293.*)
 — — (*In Chief of Eng. Rept., 1896, pt. 2. Appendix J 8, pp. 1080-1083.*)
 — — (*In Chief of Eng. Rept., 1897, pt. 2. Appendix K 9, pp. 1377-1378.*)
 — — (*In Chief of Eng. Rept., 1898, pt. 2. Appendix L 8, pp. 1232-1233.*)
 — — (*In Chief of Eng. Rept., 1899, pt. 2. Appendix L 11, pp. 1483-1484.*)
 Yearly reports of progress.
245. — Preliminary examination of Cashie river, North Carolina.
 (*In Chief of Eng. Rept., 1897, pt. 2. Appendix K 12, pp. 1381-1383.*)
 — — U. S. 54th Cong., 2d Sess., 1897. House Ex. Doc. No. 88. 3 pp.
246. — Preliminary examination of Potecasi creek, North Carolina.
 (*In Chief of Eng. Rept., 1897, pt. 2. Appendix K 13, pp. 1383-1384.*)
 — — U. S. 54th Cong., 2d Sess., 1897. House Ex. Doc. No. 124. 3 pp.
247. — [River and harbor improvements in North Carolina.]
 (*In Chief of Eng. Rept., 1888, pt. 1. Wash., 1888. pp. 115-128.*)
 (*In Chief of Eng. Rept., 1889, pt. 1. Wash., 1889. pp. 133-146.*)
 (*In Chief of Eng. Rept., 1890, pt. 1. Wash., 1890. pp. 120-132.*)
 (*In Chief of Eng. Rept., 1891, pt. 1. Wash., 1891. pp. 151-171.*)
 (*In Chief of Eng. Rept., 1892, pt. 1. Wash., 1892. pp. 152-168.*)
 (*In Chief of Eng. Rept., 1893, pt. 1. Wash., 1893. pp. 164-184.*)
 (*In Chief of Eng. Rept., 1894, pt. 1. Wash., 1894. pp. 151-166.*)
 Yearly reports of progress.

248. — Survey of waterways connecting Dismal Swamp canal, Virginia, with sounds of North Carolina.
 (In Chief of Eng. Rept., 1896, pt. 2. Appendix J 11, pp. 1086-1094.)
 — U. S. 54th Cong., 1st Sess., 1896. House Ex. Doc. No. 317. 9 pp. Maps.
249. CATESBY, MARK.
 The natural history of Carolina, Florida and the Bahama islands . . . descriptions in English and French . . . observations on the air, soil and waters. . . London, 1731. 2 vols. Plates. Fold. map. 53 cm.
 Contains supplement: An account of Carolina and the Bahama islands, which describes the climate, soil, and gives notes on the rivers and mountains.
250. CHANCE, H[ENRY] M[ARTYN].
 The auriferous gravels of North Carolina.
 Am. Phil. Soc., Proc., v. 19 (1881): 477-481.
 Describes gold found in the gravels of the slate belt, and early workings in this region.
251. — The Burns gold mine, North Carolina.
 Eng. & Min. Jour., v. 61 (1896): 132.
 Describes this mine, located in Moore county, geological occurrence of the ores, mining methods and progress.
252. — [Deep River coal beds of North Carolina.]
 Eng. & Min. Jour., v. 38 (1884): 187.
253. — The Deep River coal-fields of North Carolina.
 Am. Inst. Min. Eng., Trans., v. 13 (1884): 517-520.
 Review by I. C. Russell: Science, v. 6 (1885): 548-549.
 Short geological account of the coal deposit at Deep River, and analyses of specimens by the State chemist and by Mr. Battle.
254. — Report on the North Carolina coal-fields to the Department of Agriculture. Raleigh, P. M. Hale, 1885. 66 pp. 22 cm. Map.
 Describes coal-bearing formation of the Deep River district in Moore and Chatham counties, and the Dan River district, and gives analyses of coal made under direction of Charles W. Dabney, Jr.
255. CHANDLER, CHARLES F[REDERICK].
 Analyse des Zircons aus Buncombe county, North Carolina.
 Ann. d. Phys. u. Chem., v. 178 (1857): 444-449.
 Abstract: Am. Jour. Sci., Ser. II, v. 24 (1857): 131.
 Abstract: Zts. f. d. Gesam. Naturwiss., v. 11 (1858): 93.
 Abstract: Uebersicht der Resultate mineralogischer Forschungen in Jahre, 1856-1857. Leipzig, 1859. p. 117.
 Description and analysis of pale chocolate-colored zircon crystals.
256. Charlotte, N. C., granites.
 Stone, v. 4 (1892): 14.
 Notes on granites quarried in Charlotte.

257. CHASE, HARVEY S.

Southern magnetites and magnetic separation.

Am. Inst. Min. Eng., Trans., v. 25 (1895): 551-557.

Discusses iron ores from Cranberry mines in Mitchell county. Describes ores, methods of concentrating, and gives tables of chemical analyses.

258. CHATARD, THOMAS MAREANJ.

Corundum in North Carolina.

(In U. S. Geol. Survey, Min. Res., 1883-1884. Wash., 1885. pp. 714-718.)

Describes occurrence and mining of corundum at Corundum Hill, Macon county.

259. ——— Decomposed dolerite from near Wadesboro, North Carolina.

(In U. S. Geol. Survey, Bull. 52. Wash., 1889. pp. 17-18.)

———— (In U. S. Geol. Survey, Bull. 148. Wash., 1897. p. 289.)

———— (In U. S. Geol. Survey, Bull. 168. Wash., 1900. p. 292.)

———— (In U. S. Geol. Survey, Bull. 228. Wash., 1904. p. 354.)

Analysis of this rock.

260. ——— The gneiss dunyte contacts at Corundum Hill, North Carolina, in relation to the origin of corundum.

(In U. S. Geol. Survey, Bull. 42. Wash., 1888. pp. 45-63.)

Abstract: Eng. & Min. Jour., v. 46 (1887): 46; 81.

Abstract by W. S. Bayley: Neues Jahr. f. Min., 1890, Bd. I.

Ref. pp. 36-37.

Description of occurrence of corundum at Corundum Hill, Macon county. Describes contact sections and gives analytical results of examinations of many specimens.

261. ——— Lucasite, a new variety of vermiculite.

Am. Jour. Sci., Ser. III, v. 32 (1886): 375-377.

Notice: Am. Nat., v. 21 (1887): 72.

Abstract by B. S. Brough: Chem. Soc. (London) Jour., v. 52 (1887): 349-350.

Abstract: Jahresber. d. Chem., 1886, pt. 2, p. 2275.

Abstract: Soc. Min. de France, Bull., v. 12 (1889): 431-432.

Abstract by C. A. Tenne: Neues Jahr. f. Min., 1890, Bd. 1.

Ref. pp. 225-226.

Description and analysis of lucasite from Corundum Hill, Macon county.

262. ——— Magnetite from North Carolina.

(In U. S. Geol. Survey, Bull. 55. Wash., 1889. p. 86.)

Analyses of two magnetites from the Cranberry mine, Mitchell county.

263. ——— Rocks from Corundum Hill, North Carolina.

(In U. S. Geol. Survey, Bull. 42. Wash., 1888. pp. 45-63.)

———— (In U. S. Geol. Survey, Bull. 148. Wash., 1897. p. 91.)

———— (In U. S. Geol. Survey, Bull. 168. Wash., 1900. p. 54.)

———— (In U. S. Geol. Survey, Bull. 228. Wash., 1904. p. 64.)

Analyses of altered gneiss, olivine and dunyte from Corundum Hill.

264. — Yellowish brown kaolinized, decomposed trap from four miles west of Sanford, North Carolina.
(In *U. S. Geol. Survey, Bull. 42. Wash., 1888. p. 138.*)
Analyses of this material.
265. CHERRY, CUMMINGS and CHERRY, JAMES.
Geological report. Gap Creek mine, North Carolina. Pittsburg, A. Matthias, 1871. 12 pp. 22 cm.
Describes Gap Creek mine in Ashe county, topography of country, geological formations, soil, veins and ores.
- CHERRY, JAMES.
Geological report. Gap Creek mine, North Carolina.
See Cherry, Cummings and Cherry, James, No. 265.
266. CHESTER, ALBERT H. [HUNTINGTON].
Bismutite from North Carolina.
(In *Mineralogical notes, Am. Jour. Sci., Ser. III, v. 33 (1887): 290-291.*)
Abstract by B. H. Brough: *Chem. Soc. (London) Jour., v. 52 (1887): 782-783.*
Abstract by C. A. Tenne: *Neues Jahr. f. Min., 1890, Bd. 1. Ref. pp. 46-47.*
Description of mineral from Cashier's valley, Jackson county. Analysis by F. I. Cairns.
267. CHICKERING, J. W.
Notes on Roan mountain, North Carolina.
Phil. Soc. Wash., Bull., v. 4 (1881): 60-64.
Account of the Iron, Stone, Bald, Unaka and Great Smoky mountain ranges which form boundary line between North Carolina and Tennessee.
268. — The thermal belts of North Carolina.
Phil. Soc. Wash., Bull., v. 6 (1883): 11-13.
Am. Meteor. Jour., v. 1 (1884): 213-218.
Notice: *Science, v. 1 (1883): 147.*
Describes thermal belts in Macon county, quoting from letter of Mr. Silas McDowell of Franklin. (*See McDowell, S.*)
269. — A trip to Roan mountain.
Appalachia, v. 3 (1882): 142-147.
Description of an ascent of Roan mountain, with notes on soil, temperature, etc.
270. CHLADNI, ERNST F. F.
[Caswell county meteorite.]
(In *his Feuer-Meteore . . . Wien, 1819. 23 cm. pp. 291-292.*)
Brief notice of meteoric iron falling in Caswell county, January 30, 1810.
271. CHRISTY, DAVID.
Climatology of North Carolina.
(In *The Southern Highlands. Cincinnati, 1858. 22½ cm. pp. 20-36.*)
General description of the climate of the state, with statistics of mean mountain temperature for the year.

272. — [Notes on North Carolina formations.]
(In his Letters on geology . . . giving an outline of the geology of the west and southwest. Rossville, Ohio, J. M. Christy, 1848. 22 cm. pp. 52-53.)
 Author gives his ideas of the rock formations in vicinity of Warm Springs, on the French Broad river along the valley to Asheville and the Blue Ridge. Notes on general scenery, mountains, etc.
273. — Preliminary report on the lands of the Nantahala and Tuckasege land and mineral company. Cincinnati, Wrightson & Co., 1856. 24 pp. 22 cm.
 Describes geology and mineralogy of the lands belonging to this company in Cherokee, Macon and Jackson counties.
274. — Second preliminary report of the Nantahala and Tuckasege land and mineral company for 1858. Cincinnati, Wrightson & Co., 1858. 24 pp. 22 cm.
 Reports on the mines of this company, located in Cherokee, Macon and Jackson counties.
275. Chrome iron in North Carolina.
Mineral Industry, v. 2 (1893): 152.
 Notice of occurrence of chrome iron ore in Jackson, Guilford, Macon, Madison, Yancey, Clay, Mitchell, Burke and Watauga counties.
276. CHUNN, IDA F.
 Descriptive illustrated guide-book to North Carolina mountains. Their principal resorts. New York, E. J. Hale & Son, 1881. 87 pp. Illus. 18 cm.
 Popular description of the mountains of western North Carolina, dealing especially with Asheville, Mount Mitchell, Caesar's Head, Roan mountain and Hot Springs.
277. CIRKEL, FRITZ.
 [Mica from North Carolina.]
(In his Mica, its occurrence, exploitation and uses. Ottawa, Canada, Dept. Int., Mines branch, 1905. 24 cm. pp. 99; 100.)
 Notes on mica deposits and mines in Mitchell, Yancey, Jackson, Haywood and Macon counties.
278. CLANTON, W. S.
 [Production of precious metals in North Carolina.]
(In U. S. Mint, Prod. of precious metals in U. S. in 1897. Wash., 1898. pp. 192-193.)
 — — — *(In U. S. Mint, Prod. of precious metals in U. S. in 1898. Wash., 1899. pp. 129-130.)*
 — — — *(In U. S. Mint, Prod. of precious metals in U. S. in 1899. Wash., 1900. pp. 167-168.)*
 — — — *(In U. S. Mint, Prod. of precious metals in U. S. in 1900. Wash., 1901. pp. 181-182.)*
 — — — *(In U. S. Mint, Prod. of precious metals in U. S. in 1901. Wash., 1902. pp. 192-195.)*
 Yearly reports of production.

279. CLARK, W_{ILLIAM} B_{ULLOCK}.

[The eocene in North Carolina.]

(In his Correlation papers, Eocene. U. S. Geol. Survey, Bull. 83. Wash., 1891. pp. 48-50; 81.)

Discusses eocene formation which extends between the Neuse and Cape Fear rivers to about 100 miles inland.

280. — SHATTUCK, G_{EORGE} B_{URBANK}, and DALL, W_{ILLIAM} H_{EALEY}.

The miocene deposits of Maryland.

Maryland Geol. Survey, Baltimore, 1904. 543 pp. 28 cm.

Contains references, general and scattered, to miocene forms found in North Carolina.

281. CLARK, W_{ILLIAM} B_{ULLOCK}.

On the tertiary deposits of the Cape Fear river region.

Geol. Soc. Amer. Bull., v. 1 (1890): 537-540.

Abstract: Am. Geol., v. 5 (1890): 119.

Abstract: Am. Nat., v. 24 (1890): 289.

Discussion of age of fossils occurring in deposits of this region.

282. CLARK, WILLIAM S.

On metallic meteorites. Inaugural dissertation. . . Göttingen, 1852. 77 pp. 23 cm.

Notice: Am. Jour. Sci., Ser. II, v. 15 (1853): 7-22.

Contains descriptions and analyses of the following North Carolina meteorites: Hominy Creek, Black Mountain, Asheville, Guilford county, Randolph county.

CLARKE, E. S.

[Olivine norite near Marshall, North Carolina.]

See Herrick, Clarke and Deming, No. 762.

283. CLARKE, F. W.

A trip to North Carolina.

Appalachia, v. 2 (1879): 14-28.

Author describes trip in the mountains of western North Carolina, and the ascent of Bald and "Big Craggy" mountains. Notes on the rocks and scenery.

284. CLARKE, F_{RANCIS} W_{IGGLESWORTH} and SCHNEIDER, E. A.

[Analysis of kerrite from Franklin, North Carolina.]

(In U. S. Geol. Survey, Bull. 78. Wash., 1891. pp. 28-31.)

— — (In Experimentaluntersuchungen über die Constitution der natürlichen Silicate. Zts. f. Kryst. u. Min., v. 18 (1891): 412-415.)

285. — [Analyses of minerals from North Carolina.]

(In Experiments upon the constitution of the natural silicates. Am. Jour. Sci., Ser. III, v. 40 (1890): 308.)

— — (In U. S. Geol. Survey, Bull. 78. Wash., 1891. pp. 15-19.)

- ——— (*In Experimentaluntersuchungen über die Constitution der natürlichen Silicate. Zts. f. Kryst. u. Min., v. 18 (1891): 395-400.*)
 Abstract by F. Rinne: *Neues Jahr. f. Min., 1894, Bd. 1. Min., pp. 27; 31-32.*
Analyses of pierolite from Buck Creek, and serpentine from Corundum Hill.
286. CLARKE, FRANCIS, WIGGLESWORTH, and STEIGER, GEORGE.
Analysis of pyrophyllite from Deep river, N. C.
Am. Jour. Sci., Ser. IV, v. 8 (1899): 245-257.
287. CLARKE, FRANCIS, WIGGLESWORTH.
Muscovite from Alexander county, North Carolina.
Am. Jour. Sci., Ser. III, v. 34 (1887): 131-133.
 ——— (*In U. S. Geol. Survey, Bull. 55. Wash., 1889. pp. 13-14.*)
 Abstract by B. H. Blrough: *Chem. Soc. (London) Jour., v. 54 (1888): 117.*
 Abstract by E. S. Dana: *Zts. f. Kryst. u. Min., v. 14 (1888): 392.*
 Abstract by C. A. Tenne: *Neues Jahr. f. Min., 1891, Bd. 1. Ref. pp. 39-40.*
Analysis of muscovite from Stony Point.
288. ——— Oligoclase from Bakersville, North Carolina.
(In U. S. Geol. Survey, Bull. 60. Wash., 1890. pp. 129-130.)
Analysis.
289. ——— and SCHNEIDER, E. A.
On the constitution of certain micas, vermiculites and chlorites.
Am. Jour. Sci., Ser. III, v. 42 (1891): 242-251.
 ——— ——— *Zts. f. Kryst. u. Min., v. 19 (1891): 465-477.*
 ——— ——— (*In U. S. Geol. Survey, Bull. 90. Wash., 1892. pp. 11-14.*)
 Abstract by F. Rinne: *Neues Jahr. f. Min., 1894, Bd. 1. Min., pp. 32-36.*
Description and analysis of an altered biotite from the zircon mine, Henderson county.
290. CLARKE, FRANCIS, WIGGLESWORTH.
Some nickel ores from Oregon.
Am. Jour. Sci., Ser. III, v. 35 (1888): 483-488.
 ——— ——— (*In U. S. Geol. Survey, Bull. 60. Wash., 1890. pp. 21-26.*)
Quotes J. S. Diller in regard to the Webster, North Carolina, genthite.
291. ——— Three coals from Gulf, North Carolina.
(In U. S. Geol. Survey, Bull. 42. Wash., 1888. p. 146.)
Analyses of these coals.
292. CLAXTON, P. P.
North Carolina.
(In Frye, Alex. Everett. Complete geography. North Carolina edition. Boston, Ginn & Co., 1896. 12 pp. 32 cm. Map.)
General geographical sketch.

CLEMONS, WOODSON.

Reports of sundry surveys. . .

See Price and Clemons, No. 1515.

293. The climate of North Carolina.

Am. Meteor. Jour., v. 10 (1893): 187-188.

Extracts from "A general sketch of the climate of North Carolina," issued by the N. C. Agric. Exp. Sta.

294. CLINGMAN, THOMAS LANIER.

Earthquakes of North Carolina.

Am. Jour. Sci., Ser. III, v. 9 (1875): 55-58.

Extract from a paper published in the Western Expositor of Asheville, describing earthquakes occurring in the mountains forming boundary between Haywood and Buncombe counties.

295. — The great meteor of 1860.

Appleton's Jour., v. 5 (1871): 10-13.

— — (In Selections from the speeches and writings of Hon. T. L. Clingman, of North Carolina. Raleigh, John Nichols, 1878. pp. 53-60.)

Description of a meteor which the writer saw to the north-west of Asheville.

296. — Mount Pisgah, North Carolina.

Appleton's Jour., v. 10 (1873): 817.

— — (In Selections from the speeches and writings of Hon. T. L. Clingman, of North Carolina. Raleigh, John Nichols, 1878. pp. 133-135.)

Describes briefly the principal mountain ranges and peaks of the Blue Ridge and Smoky mountains.

297. — North Carolina—her wealth, resources and history.

DeBow's Review, v. 25 (1858): 664-679.

Popular general account of state and its resources. Descriptions: topographical, climatic and historical. Brief review of mineral deposits and mining interests.

298. — [On earthquakes of North Carolina.]

(In Lanman, Charles. Letters from the Alleghany Mountains. New York, Putnam, 1849. 20 cm. pp. 173-182.)

Account of visit to Haywood county to examine effects of reported earthquake shocks. Discusses phenomena, rock formations, and gives mineral structure of the locality.

299. — Selections from the speeches and writings of Hon. Thomas L. Clingman of North Carolina. Raleigh, John Nichols, 1878. Ed. 2. 675 pp. 24 cm.

Contains much information in the form of speeches, letters and articles published in newspapers and periodicals, on topography, climate, general and mineral resources of western North Carolina.

300. — Topography of Black mountain.

Our Living and our Dead, v. 1 (1874): 254-256.

Describes topography of country as seen from Mt. Mitchell.

301. — Topography of Black mountain.
Smith. Inst., Bd. of Regents, Ann. Rept., 1855, pp. 299-305.
Popular sketch of the Black mountains with notes on altitudes and barometrical observations.
302. — Topography of western North Carolina.
(In Lanman, Charles. Letters from the Alleghany Mountains. New York, Putnam, 1849. 20 cm. pp. 182-186.)
Contains notes on topography and climate of the western counties, and on mineral deposits and gold mines.
303. — Volcanic action in North Carolina.
(In Selections from the speeches and writings of Hon. T. L. Clingman, of North Carolina. Raleigh, John Nichols, 1878. pp. 78-83.)
Abstract: Phil. Soc. Wash., Bull., v. 1 (1874): 104.
Describes volcanic disturbances occurring in Haywood county, in the mountains of the Blue Ridge and Smoky ranges, and the ridges of the elevated plateau between.
304. — Water spouts of North Carolina.
(In Selections from the speeches and writings of Hon. T. L. Clingman, of North Carolina. Raleigh, John Nichols, 1878. pp. 68-77.)
Abstract: Phil. Soc. Wash., Bull., v. 2 (1877): 104.
Describes water spouts in Macon and Jackson counties, June 15, 1876.
- CLOIZEAUX, A. DES.
See Des Cloizeaux, A.
305. CLOUD, J_(OSEPH).
Crystals of red-oxide of titanium.
Am. Min. Jour., v. 1 (1810): 242.
A notice of these crystals from "the back part of North Carolina." (Precise locality not ascertained.)
306. Coal in North Carolina.
Mining World, v. 27 (1907): 276.
States that output from the Cumnock mines ceased entirely in 1906.
307. COBB, COLLIER.
The forms of sand dunes as influenced by neighboring forests.
Elis. Mit. Sci. Soc., Jour., v. 20 (1904): 14.
Abstract by author: Geol. Centralblatt, v. 6 (1905): 215.
308. — Geography of North Carolina. New York, Amer. Book Co., 1898. 8 pp. 32 cm. Illus. Map.
(In Redway, J. W. and Hinman, Russell. Natural complete geography. Ed. for Carolinas. New York, Amer. Book Co., 1898. 8 pp. Map.)
General geographical sketch.
309. — A liri dendron from the Deep river triassic.
Elis. Mit. Sci. Soc., Jour., v. 20 (1905): 116-117.
Description of a liri dendron leaf found at Cumnock.

310. — A new Palæotrochis locality, with some notes on the nature of Palæotrochis.
 Elis. Mit. Sci. Soc., Jour., v. 20 (1904): 11-12.
 Abstract by author: Geol. Centralblatt, v. 6 (1905): 193.
 Describes an acid volcanic rock full of spherulites resembling Palæotrochis, which occurs at the "Old Volcano" near Chapel Hill.
311. — North Carolina.
 Jour. of School Geography, v. 1 (1897): 257-266; 300-308.
 Description of the state, including topography, drainage, soils, climate, vegetation, animal life, mineral resources, forests, agriculture, mining and manufacturing.
312. — Notes on the deflective effects of the earth's rotation as seen in streams.
 Elis. Mit. Sci. Soc., Jour., v. 10 (1893): 26-32.
 A short general discussion of the subject and its application to the streams of North Carolina.
313. — Notes on the geology of Core Bank, N. C.
 Elis. Mit. Sci. Soc., Jour., v. 23 (1907): 26-28.
 Abstract: Science, n. s., v. 25 (1907): 298.
 Discusses conditions at Core Bank revealed by inlets cut by storm of Oct. 17, 1906.
314. — Notes on the geology of the Currituck banks.
 Elis. Mit. Sci. Soc., Jour., v. 22 (1906): 17-19.
 Abstract by R. S. Tarr: Am. Geog. Soc., Bull., v. 38 (1906): 234.
 Describes topography and geology of the Currituck banks.
315. — On the geological history of certain topographical features east of the Blue Ridge.
 Elis. Mit. Sci. Soc., Jour., v. 10 (1893): 94-97.
 Study of the topography of the King's Mountain region.
316. — Origin of the sand hill topography of the Carolinas.
 Science, n. s., v. 17 (1903): 226-227.
 — — — Sci. Amer. Suppl., v. 55 (1903): 22666.
 Discusses sand dunes of North Carolina coast and origin of some of the topographic features.
317. — The physical history of the North Carolina coast.
 Goldthwaite's Geog. Mag., v. 5 (1893): 71-72.
 Concise account of the more recent physiographic history of the coastal region.
318. — Recent changes in the Carolina coast, with special reference to Hatteras island.
 Science, n. s., v. 17 (1903): 227.
 — — — Sci. Amer. Suppl., v. 55 (1903): 22666.
319. — Recently discovered mineral localities in North Carolina.
 Elis. Mit. Sci. Soc., Jour., v. 20 (1904): 38.
 Notes occurrence of prase in Macon county, hausmannite and braunite in Randolph and Chatham counties, and braunite in Surry county.

- 320 ——— Rhaetic flora of the Moncure shales.
 Elis. Mit. Sci. Soc., Jour., v. 22 (1906): 60.
 ——— Science, n. s., v. 23 (1906): 944.
 Describes specimens of *Liriodendron* found in the Deep river trias in 1904, and fragments found since that time.
321. ——— Some beginnings in science.
 Pop. Sci. Month., v. 49 (1896): 763-771.
 Popular account of early scientific work at the University of North Carolina, mentioning the Mitchell and Olmsted survey in 1824.
322. ——— Some changes in the North Carolina coast since 1585.
 North Carolina Booklet, v. 4, No. 9 (1905): 3-13.
 Describes North Carolina coast, its inlets and river entrances, noting changes that have occurred since 1585. Discusses several early maps of the coast.
- 322a. ——— Some human habitations.
 Nat. Geog. Mag., v. 19 (1908): 509-515.
 Description of dwelling houses on N. C. coast from Cape Hatteras to Cape Sable, together with notes on the geography of the region.
- 322b. ——— Special geography of North Carolina. A supplement to Monteith's Comprehensive Geography.
 (In Monteith, James. Comprehensive Geography. New York, A. S. Barnes & Co., 1882. Supplement, pp. 1-6. Map.)
- 322c. ——— Special geography of North Carolina.
 (In Barnes, A. S. Complete Geography. New York, American Book Co., 1885. Appendix, pp. A-J. Map.)
323. ——— Where the wind does the work.
 Elis. Mit. Sci. Soc., Jour., v. 22 (1906): 81-85.
 ——— Nat. Geog. Mag., v. 17 (1906): 310-317.
 Descriptions of the sand dunes along the North Carolina coast, their movements and character of material of which they are composed.
 Abstract by B. L. Miller: Annales de Géographie, v. 16 (1907): 281.
324. COBB, NEEDHAM BRYAN.
 Poetical geography of North Carolina. Cambridge, Riverside Press, 1887. 63 pp. 20 cm.
 Rhymes on the counties, rivers, creeks, sounds, bays and mountains of North Carolina, written by author to assist his pupils in learning the geography of the state.
325. COFFEY, GEORGE N. and HEARN, W. EDWARD.
 Soil survey of Alamance county, North Carolina.
 (In U. S. Dept. Agric., Field Operations, Bureau of Soils, 3d Rept., 1901. Wash., 1902. pp. 297-310.)
 Describes physiography, geology, climate and soils of Alamance county, with mechanical analyses of the soils.
326. ——— Soil survey of the Cary area of North Carolina.
 (In U. S. Dept. Agric., Field Operations, Bureau of Soils, 3d Rept., 1901. Wash., 1902. pp. 311-318. Map.)
 Description and analyses of soils of area.

COFFEY, GEORGE N.

Soil survey of the Craven area, North Carolina.

See Smith, W. and Coffey, No. 1691.

327. COHEN, E₁MIL₁ and WEINSCHENK, E.

Meteoriten-Studien.

Annalen d. K. K. Naturhist. Hofmus. Wien, 1891. pp. 131-165.

A study of the relation of nickel and cobalt to the iron in nickeliferous meteoric irons. Includes Lick Creek and Duel Hill irons among those studied.

328. COHEN, E₁MIL₁.

Meteoriten-Studien IV.

Annalen des K. K. Naturhist. Hofmus. Wien, v. 10, pt. 2, 1895, pp. 81-93.

Contains notes on magnetic properties and specific gravity of nickeliferous meteoric irons. The meteorites from Madison county (Duel Hill), and Davidson county (Lick Creek), are included among those studied.

329. — Meteoriten von Deep Springs Farm, Rockingham county, Nord-Carolina, Vereinigte-Staaten.

(In Meteoriten-Studien XI. Annalen d. K. K. Naturh. Hofmus., v. 15 (1900): 353-354.)

Abstract by E. Dull: Zts. f. Kryst. u. Min., v. 36 (1902): 645.

Contains collected results of chemical work on meteoric iron said to have fallen in 1846.

330. — Das Meteoriten von Forsyth Co., Georgia, Vereinigte-Staaten.

K. preuss. Akad. d. Wiss. Sitz., 1897, pp. 386-396.

(This iron is from Forsyth county, North Carolina, and not from Georgia. It was found in 1895 while the Georgia stone was found in 1829.) Detailed description and chemical analysis.

331. — Meteoriten von Linnville Mountain, Burke county, Nord-Carolina.

(In Meteoriten-Studien, VIII. Annalen d. K. K. Naturh. Hofmus., v. 13 (1898): 145-147.)

Contains collected results of chemical work on this meteorite.

332. — Meteoriten von Murphy, Cherokee county, Nord-Carolina, Vereinigte-Staaten.

(In Meteoriten-Studien, XI. Annalen d. K. K. Naturh. Hofmus., v. 15 (1900): 368-369.)

Description and analysis of this meteorite found in 1899.

333. — Die Meteoriten . . . von Persimmon creek, bei Hot House, Cherokee county, Nord-Carolina, Vereinigte-Staaten, bekannt seit 1902.

Naturwiss. Ver. f. Neuvorpommern u. Rügen in Greifswald.

Mitth. 35 Jahr., 1903, pp. 58-60.

Abstract by author: Geol. Centralblatt, v. 5 (1904): 245-246.

Abstract by G. Linck: *Neues Jahr. f. Min.*, 1905, Bd. 1. Min., pp. 216-217.

Detailed metallographic description of this meteorite.

334. — Meteoritenkunde, Parts 1, 2, 3. Stuttgart, 1894, 1903, 1905. 24 cm.

Contains notes and results of chemical work on following North Carolina meteorites: Lick Creek, Davidson county; Madison county; Guilford county; Smth Mountain; Linnville Mountain; Persimmon Creek.

— Oktaedrisches Eisen mit feinen Lamellen. Jewell Hillgruppe: Jewell Hill.

See Brezina and Cohen, No. 183.

335. — Ueber ein neues Meteoreisen von Locust Grove, Henry county (?), Nord-Carolina, Vereinigte-Staaten.

K. preuss. Akad. d. Wiss., Sitz., 1897, pp. 76-81.

Abstract by L_{eonard} J. S_{pencer}: *Chem. Soc. (London) Jour.*, v. 72, pt. 2 (1897): 272.

Describes meteorite found in July, 1857, in Georgia, not North Carolina.

336. — Zusammenfassung der bei der Untersuchung, der körnigen bis dichten Meteoreisen erhaltenen Resultate.

K. preuss. Akad. d. Wiss., Sitz., 1900, pp. 1122-1135.

Summary of results of studies of granular and massive meteorites. Short descriptions and analyses of the Forsyth county and Linnville Mountain irons are given.

337. COLES, THOMAS and PRICE, JONATHAN.

Survey of the coast of North Carolina.

(In *Amer. State Papers, Com. & Nav.*, v. 1, U. S. 9th Cong., 1st Sess., 1806. pp. 690-692.)

Review: *Med. Repos.*, v. 10 (1807): 292-293.

Account of survey begun May 28, 1806, describing the dangerous shoals on the coast.

338. COLLES, G_{EO}RGE, W_{ET}MORE.

Mica and the mica industry.

Frank. Inst., Jour., v. 160 (1905): 191-210; 275-294; 327-368; v. 161 (1906): 43-58; 81-100.

Review by R. Peele: *School of Mines Quart.*, v. 28 (1906): 129.

Contains description of mica deposits in Mitchell, Yancey, and McDowell counties, mines and mining methods, output, value and uses. Describes pegmatite dikes and gives list of associated minerals as prepared by W. C. Kerr.

339. COLTON, HENRY E.

A farm on the French Broad, and Hickory Nut gap.

Appleton's Jour., v. 4 (1870): 737-738.

Popular description of mountain scenery along the French Broad river.

340. — Mining in North Carolina.

Eng. & Min. Jour., v. 11 (1871): 323.

Historical notes on the mining districts, descriptions of the mines and present development.

341. — Mountain scenery. The scenery of the mountains of western North Carolina and northwestern South Carolina. Raleigh, W. L. Pomery. Philadelphia, Hayes & Zell, 1859. 111 pp. Plates. 18 cm. Map.
Popular description of scenery in Buncombe, Haywood, Macon, Jackson, Cherokee, Franklin and Madison counties.
342. — Notes on the topography and geology of western North Carolina—the Hiwassee valley.
Am. Inst. Min. Eng., Trans., v. 16 (1888): 839-851.
Discusses drainage and watersheds in counties Cherokee, Clay and part of Graham, and gives notes on economic minerals, building stones and ore deposits of district, with several ore analyses by McCreath, James A. Burns, and J. B. Britton.
343. — Western North Carolina.
Amer. Inst., Trans., 1870, pp. 691-694.
——— Appleton's Jour., v. 5 (1871): 587.
Brief notes on topography, climate, agriculture and mineral resources.
344. Compagnie de Wilmington.
Prospectus. Campagne de Wilmington dans la Caroline du Nord, sur la rivière de Cape-Fear aux États-Unis de l'Amerique. [Paris, 1797.] 4 pp. 26½ cm. Map.
Prospectus of a company organized in Europe for the exploitation of lands in southeastern North Carolina.
345. COMSTOCK, W. J.
Analyses of some American tantalates.
Am. Jour. Sci., Ser. III, v. 19 (1880): 131-132.
Abstract by C. W. Watts; Chem. Soc. (London) Jour., v. 38 (1880): 531.
Abstract: Chem. News, v. 41 (1880): 244.
Abstract: Jahresber. d. Chem., 1880, pp. 1478-1479.
Analysis of specimen from Yancey county.
346. CONRAD, TIMOTHY, ALBOTT.
Catalogue of the eocene annulata, foraminifera, echinodermata and cirrrepedia of the United States.
Acad. Nat. Sci. Phila., Proc., [v. 17] (1865): 73-75.
Includes one North Carolina form, the *Sismondia alta*.
347. — Catalogue of the miocene shells of the Atlantic slope.
Acad. Nat. Sci. Phila., Proc. (v. 14) (1862): 559-582.
Abstract: Neues Jahr. f. Min., 1863, pp. 871-872.
Gives name and bibliography of about 580 species, many of which are from North Carolina.
348. — Description of twenty-four new species of fossil shells, chiefly from the tertiary deposits of Calvert cliffs, Maryland.
Acad. Nat. Sci. Phila., Jour., v. 8 (1842): 183-190.
Includes *Astrca bella* from near Newbern.

349. — Descriptions of a new genus and of twenty-nine new miocene and one eocene fossil shells of the United States.
Acad. Nat. Sci. Phila., Proc., [v. 1] (1843): 305-311.
 Describes eight fossil shells from Newbern and Wilmington.
350. — Descriptions of a new recent species of *glycimeris* from Beaufort, North Carolina, and of miocene shells of North Carolina.
Acad. Nat. Sci. Phila., Proc., [v. 24] (1872): 216-217.
 Describes *Donax idoncus* from the coast, and *Ostrenomia* from eocene of North Carolina.
351. — Descriptions of miocene shells of the Atlantic slope.
Am. Jour. Conch., v. 4 (1868): 64-68.
 Names two varieties from the Natural well, Duplin county.
352. — Descriptions of new genera and species of fossil shells of North Carolina.
 (Appendix a, to Kerr, W. C., Rept. Geol. Survey of North Carolina. Raleigh, Josiah Turner, 1875. 24½ cm. pp. 2-28.)
 Description and synopsis of the cretaceous fossils and "Remarks on some genera of shells."
353. — Descriptions of new genera and species of miocene shells, with notes on other fossil and recent species.
Am. Jour. Conch., v. 3 (1867): 257-270.
 Names five miocene shells from the Natural well, Duplin county.
354. — Descriptions of new genera, subgenera and species of tertiary and recent shells.
Acad. Nat. Sci. Phila., Proc., [v. 14] (1862): 284-291.
 Contains descriptions of four species from the Neuse river below Newbern.
355. — Descriptions of new, recent and miocene shells.
Acad. Nat. Sci. Phila., Proc., [v. 14] (1862): 583-586.
 Contains descriptions of two species from Wilmington.
356. — Descriptions of new species of fossils and recent shells and corals.
Acad. Nat. Sci. Phila., Proc., [v. 3] (1846): 19-27.
 Names one miocene fossil shell from Wilmington.
357. — Descriptions of the new tertiary fossils from the Southern States.
Acad. Nat. Sci. Phila., Jour., v. 7, pt. 1 (1834): 130-157.
 Names nine species of pliocene fossils from North Carolina.
358. — Descriptions of nineteen species of tertiary fossils of Virginia and North Carolina.
Acad. Nat. Sci. Phila., Proc., [v. 1] (1843): 323-329.
 Names four varieties from miocene (?) of the Neuse below Newbern.

359. — Illustrations of miocene fossils, with descriptions of new species.

Am. Jour. Conch., v. 2 (1866): 65-74.

Names *Volutifusus typus* from North Carolina.

360. — New fossil shells from North Carolina.

Am. Jour. Sci., Ser. I, v. 39 (1840): 387-388.

Names and describes six new fossil shells from Duplin county.

361. — Notes on shells with descriptions of new fossil genera and species.

Acad. Nat. Sci. Phila., Proc., [v. 16] (1864): 211-214.

Contains description of two specimens from the "Natural Well," Duplin county.

362. — Observations on a portion of the Atlantic tertiary region with a description of new species of organic remains.

Nat. Inst. Promotion of Sci., Bull. 2 (1842): 171-194.

Remarks on North Carolina medial tertiary, with a list of fossils found on land belonging to Mr. Benners on the Neuse river.

363. — Observations on the eocene lignite formation of the United States.

Acad. Nat. Sci. Phila., Proc., [v. 17] (1865): 70-73.

—— Am. Jour. Sci., Ser. II, v. 40 (1865): 265-268.

Describes eocene and cretaceous fossils mingled in breccia in Wilmington rock, North Carolina.

364. — Observations on the tertiary strata of the Atlantic coast.

Am. Jour. Sci., Ser. I, v. 28 (1835): 104-111; 280-282.

Abstract: Neues Jahr. f. Min., 1838, p. 483.

Gives list of fossils from "Benner's," on the Neuse river, Craven county.

365. — On some points connected with the cretaceous and tertiary of North Carolina.

Am. Jour. Sci., Ser. III, v. 1 (1871): 468-469.

Note in same: v. 2 (1871): 75.

Describes fossiliferous miocene deposits on Tar river near Greenville, and mentions shark teeth and *Belemnites* found at same locality.

366. — Sketches from the notebook of a traveller.

Advocate of Science & Annals of Nat. Hist., v. 1 (1834): 153-163.

Sketch of travel on the North Carolina coast with many notes on the natural history and geology.

367. — Tertiary of North and South Carolina.

Am. Jour. Sci., Ser. II, v. 43 (1867): 260.

Cites Emmons and Tuomey, and notes mixture of eocene and cretaceous species at Wilmington.

368. Conrad Hill mine, North Carolina. n. p. 1853. 4 pp. 22 cm.

—— Min. Mag., Ser. I, v. 1 (1853): 628.

Description of the mine.

369. COOKE, JOSIAH P., JR.

Culsageeite, the vermiculite of the Jenks mine, North Carolina.

Am. Acad. Arts & Sci., Proc., v. 9 (1873): 48-59.

—— Phil. Mag., Ser. IV, v. 47 (1874): 255-264.

Abstract: Am. Jour. Sci., Ser. III, v. 7 (1874): 425.

Abstract: Neues Jahr. f. Min., 1874, pp. 635-636.

Describes occurrence of a variety of vermiculite at the Jenks mine, Macon county, and gives analyses of specimens.

370. COOPER, THOMAS.

[Floetz trap in North Carolina.]

Am. Jour. Sci., Ser. I, v. 4 (1822): 241.

Notes on supposed natural wall near the Yadkin river.

371. COPE, EDWARD, D[RINKER].

Discovery of a huge whale in North Carolina.

Am. Nat., v. 4 (1870): 128.

Notice of discovery of *Mesoteras kerrianus* near Balaena.

372. — [Extinct vertebrata from North Carolina.]

Am. Phil. Soc., Proc., v. 17 (1877): 182.

Remarks that a labyrinthodont and *Belodon* have been found in the triassic formation.

373. — Fourth contribution to the history of the fauna of the miocene and eocene periods of the United States.

Am. Phil. Soc., Proc., v. 11 (1870): 285-294.

Descriptions of fossil bones, including *Mesoteras* found in Edgecombe county, *Mesoteras kerrianus* found in Halifax county, and a vertebra of similar character found in Wayne county, North Carolina.

374. — [Miocene fossils from North Carolina.]

Acad. Nat. Sci. Phila., Proc., [v. 25] (1873): 207.

Mentions cranium and other bones of a hog taken from the miocene marl of Wilson county.

375. — Observations on the distribution of certain extinct vertebrata in North Carolina.

Am. Phil. Soc., Proc., v. 12 (1873): 210-216.

Ten species ranging from trias to miocene are given from Chatham and Sampson counties.

376. — *Polydectes biturgidus*, Cope.

Am. Phil. Soc., Proc., v. 11 (1870): 271.

Description of this cretaceous reptile from marl pits in Sampson county.

377. — Remarks on some fossil vertebrata from North Carolina.

Acad. Nat. Sci. Phila., Proc., [v. 21] (1869): 192.

Describes fossils of cretaceous reptiles from miocene beds in Sampson county, and the left ramus of the mandible of a tinnier whale from miocene of Edgecombe county.

378. — Synopsis of the vertebrata whose remains have been preserved in the formations of North Carolina.

(Appendix *b* to Kerr, W. C., Rept. Geol. Survey of North Carolina. Raleigh, Josiah Turner, 1875. 24½ cm. pp. 29-52.)

Descriptions of the above-named fossils, from the marl pits of Duplin county, miocene beds of Sampson county, triassic coal beds of the Dan River region, Cape Fear river, and the miocene marls of Pitt, Edgecombe and Halifax counties.

379. — [Two batrachians from North Carolina.]

Acad. Nat. Sci. Phila., Proc., [v. 20] (1868): 211-212.

Describes cranium of *Pariostegus* Cope from the triassic coal measures of Chatham county, and *Pariostegus myops* Cope from coal bed of the Keuper triassic.

380. The copper mines of Jackson county. Cambridge, 1867. 43 pp. Maps. (*Not seen.*)

381. CORDELL, EDWARD.

Hydrographic changes at Beaufort entrance, North Carolina.

(In U. S. Coast Survey, Rept., 1864. Wash., 1865. Appendix 6, p. 57.)

Describes changes on the inner bar, and in the shore line at Shakelford island.

382. Corundum.

Mineral Collector, v. 4 (1897): 37-40.

Historical notes on corundum. Outlines the commencement of the work of Charles W. Jenks at Franklin.

383. Corundum [in North Carolina].

Pop. Sci. Month., v. 4 (1874): 452-456.

Describes search for corundum *in situ*, and the opening and working of the first mine near Franklin, with notes on mode of occurrence of the corundum.

384. Corundum [in North Carolina in 1898].

Mineral Industry, v. 7 (1899): 15-16.

385. Corundum of North Carolina.

Am. Jour. Sci., Ser. III, v. 3 (1872): 301-302.

Description of corundum veins in Macon county.

386. CRAIGHILL, WILLIAM E.

Improvement of Black river, North Carolina.

(In Chief of Eng. Rept., 1897, pt. 2. Appendix L 12, pp. 1402-1404.)

387. — Improvement of Cape Fear river above Wilmington, North Carolina.

(In Chief of Eng. Rept., 1897, pt. 2. Appendix L 13, pp. 1404-1406.)

— — (In Chief of Eng. Rept., 1898, pt. 2. Appendix M 13, pp. 1253-1255.)

388. — Improvement of Cape Fear river, North Carolina, at and below Wilmington.

(In Chief of Eng. Rept., 1897, pt. 2. Appendix L 14, pp. 1406-1417.)

- ——— (*In* Chief of Eng. Rept., 1898, pt. 2. Appendix M 14, pp. 1255-1263.)
389. ——— Improvement of Contentnea creek, North Carolina.
(*In* Chief of Eng. Rept., 1897, pt. 2. Appendix L 4, pp. 1389-1391.)
—— ——— (*In* Chief of Eng. Rept., 1898, pt. 2. Appendix M 4, pp. 1242-1243.)
390. ——— Improvement of Fishing creek, North Carolina.
(*In* Chief of Eng. Rept., 1897, pt. 2. Appendix L 2, pp. 1387-1388.)
—— ——— (*In* Chief of Eng. Rept., 1898, pt. 2. Appendix M 2, pp. 1239-1240.)
391. ——— Improvement of harbor at Beaufort, North Carolina.
(*In* Chief of Eng. Rept., 1897, pt. 2. Appendix L 8, pp. 1396-1397.)
—— ——— (*In* Chief of Eng. Rept., 1898, pt. 2. Appendix M 8, pp. 1247-1248.)
392. ——— Improvement of inland waterway between Beaufort harbor and New river, North Carolina.
(*In* Chief of Eng. Rept., 1897, pt. 2. Appendix L 9, pp. 1398-1399.)
393. ——— Improvement of inland waterway between Newbern and Beaufort, North Carolina, via Clubfoot, Harlowe and Newport rivers.
(*In* Chief of Eng. Rept., 1898, pt. 2. Appendix M 7, pp. 1246-1247.)
394. ——— Improvement of Neuse river, North Carolina.
(*In* Chief of Eng. Rept., 1897, pt. 2. Appendix L 6, pp. 1393-1395.)
—— ——— (*In* Chief of Eng. Rept., 1898, pt. 2. Appendix M 6, pp. 1245-1246.)
395. ——— Improvement of Northeast (Cape Fear) river, North Carolina.
(*In* Chief of Eng. Rept., 1897, pt. 2. Appendix L 11, pp. 1400-1402.)
396. ——— Improvement of Ocracoke inlet, North Carolina.
(*In* Chief of Eng. Rept., 1897, pt. 2. Appendix L 1, pp. 1385-1387.)
—— ——— (*In* Chief of Eng. Rept., 1898, pt. 2. Appendix M 1, pp. 1237-1239.)
397. ——— Improvement of Pamlico and Tar rivers, North Carolina.
(*In* Chief of Eng. Rept., 1897, pt. 2. Appendix L 3, pp. 1388-1389.)
—— ——— (*In* Chief of Eng. Rept., 1898, pt. 2. Appendix M 3, pp. 1240-1241.)

398. — Improvement of Trent river, North Carolina.
(In Chief of Eng. Rept., 1898, pt. 2. Appendix M 5, pp. 1243-1244.)
 Yearly reports of progress.
399. — Survey of Cape Lookout Harbor of Refuge, with a view of making it capable of sheltering the largest vessels.
(In Chief of Eng. Rept., 1897, pt. 2. Appendix L 20, pp. 1430-1433.)
400. CRAIGHILL, WILLIAM P[^RICE].
 Cape Fear and Deep rivers, North Carolina.
(In Chief of Eng. Rept., 1872. Appendix Q 24, pp. 742-749.)
 Report of survey of these rivers, describing them in detail with notes on the mineral deposits of the region.
401. — Dismal Swamp canal.
(In Chief of Eng. Rept., 1872. Appendix Q 25, pp. 750-752.)
 Describes canal which connects Elizabeth river in Virginia with Pasquotank river in North Carolina.
402. — Examination and survey of harbors of Washington and Edenton, and mouth of Mackey's creek, North Carolina.
(In Chief of Eng. Rept., 1873. Appendix T 30, pp. 854-859.)
 — — — *(In U. S. 42d Cong., 3d Sess. House Ex. Doc. No. 153, pp. 54-59.)*
403. — Improvement of Cape Fear river, North Carolina.
(In Chief of Eng. Rept., 1871. Appendix Q 8, pp. 609-670.)
 — — — *(In Chief of Eng. Rept., 1872. Appendix Q 15, pp. 70; 698-699.)*
 — — — *(In Chief of Eng. Rept., 1873. Appendix T 20, pp. 789-791.)*
 — — — *(In Chief of Eng. Rept., 1874, pt. 2. Appendix U 21, pp. 68-81.)*
 — — — *(In Chief of Eng. Rept., 1875, pt. 2. Appendix V 14, pp. 98-104.)*
 — — — *(In Chief of Eng. Rept., 1876, pt. 1. Appendix F 13, pp. 308-321.)*
 — — — *(In Chief of Eng. Rept., 1877, pt. 1. Appendix F 8, pp. 332-350.)*
 — — — *(In Chief of Eng. Rept., 1879, pt. 1. Appendix F 14, pp. 556-574.)*
 — — — *(In Chief of Eng. Rept., 1880, pt. 1. Appendix G 22, pp. 695-713.)*
 — — — *(In Chief of Eng. Rept., 1881, pt. 1. Appendix G 24, pp. 918-934.)*
 — — — *(In Chief of Eng. Rept., 1882, pt. 1. Appendix G 26, pp. 934-947.)*
 — — — *(In Chief of Eng. Rept., 1884, pt. 2. Appendix I 19, pp. 937-948.)*
 Yearly reports of progress.
404. — Improvement of Roanoke river below Weldon, North Carolina.
(In Chief of Eng. Rept., 1872. Appendix Q 22, pp. 696-697; 726-728.)

- ——— (*In Chief of Eng. Rept., 1873. Appendix T 19, pp. 787-789.*)
 —— ——— (*In Chief of Eng. Rept., 1874. Appendix U 20, pp. 64-67.*)
405. —— Neuse river below Goldsborough, North Carolina.
 (*In Chief of Eng. Rept., 1872. Appendix Q 23, pp. 734-740.*)
 —— ——— (*In U. S. 42d Cong., 2d Sess., 1872. Sen. Ex. Doc. No. 23, pp. 34-40.*)
 Report of survey of this river, describing it in detail.
406. —— Old-House channel, Pamlico sound, North Carolina.
 (*In Chief of Eng. Rept., 1874, pt. 2. Appendix U 23, pp. 84-85.*)
 —— ——— (*In U. S. 43d Cong., 1st Sess., 1874. House Doc. No. 174, pp. 21-22.*)
 Report of examination of Old-House channel, Pamlico sound.
407. —— [River and harbor improvements in North Carolina in 1895.]
 (*In Chief of Eng. Rept., 1895, pt. 1. pp. 173-193.*)
 —— ——— (*In Chief of Eng. Rept., 1896, pt. 1. pp. 156-172.*)
408. CRAM, T. [THOMAS] J. [JEFFERSON].
 Report upon the mine and mills, with estimates for the use of the "North Carolina Gold Amalgamating Co." Phila., Collins, 1874. 36 pp. 22 cm. Map.
 Describes Gold Hill mine in Rowan county, gives historical notes on working the mine and assays of ores from the different shafts.
409. CRAMER, CHARLES.
 Etwas ueber die Natur-Wunder in Nord-America. St. Petersburg, 1840. 24 cm.
 Describes briefly "Ararat" mountain, near Salem, Stokes county, North Carolina. (Pt. 2; p. 83.)
410. CRAMER, STUART W.
 [Gold production in North Carolina.]
 Mineral Industry, v. 1 (1892): 182-184.
 Contains notes on discovery of gold in 1799, treatment of ores at the Phoenix mine, and operations at the Silver Valley mine in Davidson county.
411. —— [Production of precious metals in North Carolina.]
 (*In U. S. Mint, Prod. of precious metals in U. S. in 1889. Wash., 1890. pp. 203-204.*)
 —— ——— (*In U. S. Mint, Prod. of precious metals in U. S. in 1890. Wash., 1891. pp. 192-193.*)
 —— ——— (*In U. S. Mint, Prod. of precious metals in U. S. in 1891. Wash., 1892. pp. 232-233.*)
 —— ——— (*In U. S. Mint, Prod. of precious metals in U. S. in 1892. Wash., 1893. pp. 181-182.*)
 Yearly reports of production.

412. CRANE, C₁HARLES₁ A₁LBERT₁.
 North Carolina kaolin mining.
Clayworker, v. 37 (1902): 427-428.
 Abstract: *Mining Reporter*, v. 45 (1902): 511-512.
 Abstract: *Mineral Industry*, v. 11 (1903): 129.
 Notes on kaolin mining with analysis of the clay.
413. CRANE, WALTER R.
 Gold and silver in the Carolinas₁.
(In his Gold and silver, comprising an economic history of mining in the United States. New York, John Wiley & Sons, 1908. 23 cm. pp. 62-64.)
 Brief historical sketch of gold and silver mining in North Carolina.
- CRAYON, PORTE.
See Strother, D. H., No. 1750.
414. CREDNER, HERMANN.
 Die Geognosie und der Mineralreichthum des Alleghany-Systems.
Petermann's Mittheilungen, v. 17 (1871): 41-50.
 Abstract: *Neues Jahr. f. Min.*, 1871, pp. 429-431.
 Describes rocks, mountains and minerals of the Atlantic coast. Brief mention of North Carolina.
415. — Geognostische Skizze der Goldfelder von Dahlonega, Georgia, Nordamerika.
Zts. d. deutsch. Geol. Gesell., v. 19 (1867): 33-40.
 Contains notes on the Carolina portion of the belt.
416. — Geognostische Skizzen aus Virginia, Nordamerika.
Zts. d. deutsch. Geol. Gesell., v. 18 (1866): 77-85.
 Contains notes on geology and minerals of the northwestern part of North Carolina near the Virginia line. Describes the granite formations that extend into North Carolina. Short account of the Dismal Swamp, and brief notes on *Palæotrochis major* and *Palæotrochis minor*.
417. — Die Gliederung der eozoischen (vorsilurischen) Formationsgruppe Nord-Amerikas.
Zts. f. d. Gesam. Naturwiss., v. 32 (1868): 353-405.
 Review: *Neues Jahr. f. Min.*, 1870, pp. 637-638.
 Includes (pp. 375; 384) brief mention of North Carolina formations.
418. CROOM, HENRY B.
 Organic remains found in marl pits of Lucas Benners, Esq., Craven county, N. C.
Am. Jour. Sci., Ser. I, v. 27 (1835): 168-171.
 List of fossils found at this locality. Was also published as appendix to Croom and Loomis. *Catalogue of plants...* Newbern, 1833. 16 pp.
419. CROSBY, W₁ILLIAM₁ O₁TIS₁.
 Ore deposits of the eastern gold belt of North Carolina.
Tech. Quart., v. 20 (1907): 280-286.

- Am. Inst. Min. Eng., Bi-month. Bull. 20 (1908): 171-178.
- Am. Inst. Min. Eng., Trans., v. 38 (1908): 849-850.
- Abstract: Mining World, v. 28 (1908): 366.
- Treats of the gold belt lying chiefly in Franklin and Nash counties. Describes genetic and structural relations of the gold-bearing formations, the Alston mine in Warren county, and the Sturges (Portis) mine and North Carolina placer mine in Franklin county.
420. CROWNINSHIELD, JACOB.
- Survey of the shoals of Cape Hatteras, Cape Lookout and the Frying Pan.
- (In Am. State Papers, Com. & Nav., v. 1, U. S. 9th Cong., 1806. Wash., 1832. p. 639.)
- Describes the coast and dangerous shoals.
421. CURREY, RICHARD O.
- The copper and iron region of the Floyd-Carroll-Grayson plateau of the Blue Ridge in Virginia.
- The Virginias, v. 1 (1880): 62-64; 70-71; 74-77; 80-81; 95.
- Includes Ashe and Alleghany counties in North Carolina in this region; gives geological and climatic notes on district, and describes the Ore Knob and Peach Bottom mines in Alleghany county.
422. — and PROCTER, CHARLES A.
- Copper district of Tennessee, Georgia, North Carolina and Virginia—its history, geography, geology and mining interests.
- Southern Jour. Med. & Pharm., v. 3 (1855): 38-44.
- Contains brief historical notes on discovery of copper in the district above named and the crude attempts at mining. Describes old work of mining on Valley river, North Carolina.
423. CURREY, RICHARD O.
- A geological visit to the Virginia copper region. Knoxville, Tenn., Beckett, Haws & Co., 1859. 64 pp. 22 cm. Map.
- Detailed description of this region located in Floyd, Carroll and Grayson counties, Virginia, and Ashe and Alleghany counties, North Carolina. Describes physiographical and geological features, district, mineral resources, historical discovery and workings of the mines.
424. — A sketch of the geology of Tennessee.
- Min. Mag., Ser. I, v. 8 (1857): 156-163; 237-243; 450-460; v. 9 (1857): 34-44.
- Contains incidental mention of many geological features of western North Carolina.
425. CUTTS, RICHARD D.
- Legislative history of the southern boundary of Virginia.
- MSS. in possession of the U. S. Coast & Geod. Survey, Wash., D. C., 1869. 31 pp.
- Describes legislative operations in regard to boundary line between Virginia and North Carolina from Byrd's survey in 1728.

426. D., T.

An account of hill on the borders of North Carolina supposed to have been a volcano. In a letter from a Continental officer . . . to Dr. James Greenway, near Petersburg in Virginia. With remarks by Dr. Greenway.

Am. Phil. Soc., Trans., v. 3 (1790): 231-233.

Notice: Am. Phil. Soc., Early proc. From MS. copy of its meetings, 1744-1838. p. 180.

Describes as a "volcano" a hill of conical shape on Dan river, North Carolina.

427. DABNEY, CHARLES WILLIAM, JR.

Catalogue of the North Carolina exhibit at the American Exposition, Boston, 1883. Raleigh, 1884. 63 pp.

428. — Marls and phosphates of North Carolina.]

(In N. C. Agric. Exp. Sta., Ann. Rept., 1885. Raleigh, P. M. Hale, 1886. 23 cm. pp. 73-89.)

Account of work on marls and phosphates for 1885. Analyses of many varieties from localities in the lower counties.

429. — North Carolina phosphates.

(In N. C. Agric. Exp. Station, Rept. 1883. Raleigh, Ashe & Gatling, 1884. 23 cm. pp. 57-83.)

Abstract: Eng. & Min. Jour., v. 37 (1884): 363.

Historical account of distribution and occurrence of phosphate rock in Sampson, Duplin, Onslow, Pender, New Hanover, Bladen, Columbus and Brunswick counties, with many chemical analyses. Quotes from Emmons and Kerr on coprolites found in the coal and marl beds.

430. — North Carolina phosphates.

(In N. C. Agric. Exp. Station, Bull. April, 1884. pp. 4-6.)

Historical notes and descriptions of the phosphate discoveries in Duplin and Sampson counties, with analyses.

431. — North Carolina phosphates.

Elis. Mit. Sci. Soc., Jour., v. 1 (1884): 64-68.

Describes phosphate deposits in Sampson, Duplin, Onslow, Pender, New Hanover, Bladen, Columbus and Brunswick counties, with many chemical analyses of material.

432. — Note on cassiterite from King's Mountain, North Carolina.

Elis. Mit. Sci. Soc., Jour., v. 1 (1884): 79-81.

Abstract: Science, v. 3 (1884): 217.

Account of discovery of tin, with two analyses by G. B. Hanna.

433. — The phosphate exploration.

(In N. C. Agric. Exp. Station, Ann. Rept., 1884. Raleigh, P. M. Hale, 1885. 23 cm. pp. 44-86. Map.)

Historical account of discovery of phosphates in North Carolina, and of explorations in Columbus, Onslow, Duplin, Lenoir, Sampson, Bladen and Pender counties in 1884, with many analyses of phosphate rock.

434. — Phosphates in North Carolina.

Science, v. 3 (1884): 31-32.

Notes on phosphates found near Wilmington, and in Sampson, Duplin and Jones counties.

435. — Phosphatic marls and other marls.
(In *N. C. Agric. Exp. Station, Bull.* May, 1884. pp. 2-4.)
Brief account of the marls, limestones and the phosphatic conglomerates found in New Hanover and Pender counties, with tables of analyses.
436. — Progress of the phosphate investigation.
(In *N. C. Agric. Exp. Station, Bull.* March, 1884. pp. 4-7.)
Account of investigation in Lenoir, Jones, Onslow and Duplin counties, with many analyses of phosphates.
437. DADDOW, SAMUEL, HARRIES, and BANNAN, BENJAMIN.
Coal and iron in North Carolina.
(In their *Coal, iron and oil . . . Pottsville, Pa., B. Bannan; Phila., Lippincott; London, Trubner & Co., 1866. 23 cm.* pp. 47; 393; 403-406; 536-538.)
Describes Deep River coal field in Chatham county.
438. DADOURIAN, HAROUTUNE, MUGURDICH.
The radio-activity of thorium.
Am. Jour. Sci., Ser. IV, v. 21 (1906): 427-432.
Thorium nitrates prepared from North Carolina monazites were used in experiments described in this paper.
439. DALL, WILLIAM HEALEY.
Diagnosis of new tertiary fossils from the southern United States.
U. S. Nat. Mus., Proc., v. 18 (1895): 21-46.
Describes eight species found in Duplin county. at the "Natural Well," and elsewhere.
440. — List of marine mollusca comprising the quaternary fossils and recent forms from American localities, between Cape Hatteras and Cape Roque, including the Bermudas.
U. S. Geol. Survey, Bull. 24. Wash., 1885. 336 pp. 23 cm.
Contains varieties from North Carolina.
— The miocene deposits of Maryland.
See Clark, Shattuck and Dall, No. 280.
441. — Monograph of the genus *Gnathodon*, Gray. (*Rangia*, Desmoulins.)
(In *U. S. Nat. Mus., Proc., v. 17 (1894): 89-106.*)
Enumerates varieties found in the pliocene and miocene beds of North Carolina.
442. — and HARRIS, GILBERT, DENNISON.
Neocene in North Carolina.
(In *Correlation papers, Neocene. U. S. Geol. Survey, Bull. 84. Wash., 1892. pp. 68-74.*)
Describes two classes of tertiary deposits, the marine and the perezonal, and the miocene exposures on the Chowan, Roanoke, Tar, Neuse, and Cape Fear rivers.
443. DALL, WILLIAM HEALEY.
On the marine pliocene beds of the Carolinas.
(In his *Tertiary fauna of Florida . . . Wag. Free Inst. Sci., Trans., v. 3, pt. 2 (1892): 201-217.*)
North Carolina neocene forms are occasionally referred to from "Slocum's Creek" and "Mallison's." A list of species found is included.

444. — On the species of *Donax* of eastern North America.
The Nautilus, v. 5 (1891): 125-127.
 Brief notes on fossil species of *Donax* found in North Carolina localities.
445. DANA, EDWARD J. SILALISBURY.
 Chemical mineralogy.
 (In *Smithsonian Inst.*, Bd. of Regents, Rept., 1882, pp. 538-541.)
 Abstract: *Neues Jahr. f. Min.*, 1886, Bd. 2. Ref. p. 189.
 Contains summary of progress of chemical mineralogy for 1882. Reviews Gent's researches on corundum of North Carolina, and notices discovery of several minerals in the state.
446. — Mineralogical notes: No. 2. On the samarskite of Mitchell county, North Carolina.
Am. Jour. Sci., Ser. III, v. 11 (1876): 201-204.
 Abstract: *Jahresber. d. Chem.*, 1876, pp. 1257-1258.
 Abstract: *Neues Jahr. f. Min.*, 1876, pp. 427; 428.
 Description and crystallographic measurements of samarskite from the mica mines of Mitchell county, and its associated minerals.
447. — Mineralogical notes, No. 3. On staurolite, new twins of staurolite and pyrrhotite.
Am. Jour. Sci., Ser. III, v. 11 (1876): 384-385.
 Mentions staurolite crystals from Valley river, Cherokee county.
448. — [North Carolina minerals.]
 (In *his Text-book of mineralogy*. Ed. 2. New York, John Wiley & Sons, 1878. 23 cm. pp. 465-466.)
 Contains list of minerals.
449. — On crystals of monazite from Alexander county, North Carolina.
Am. Jour. Sci., Ser. III, v. 24 (1882): 247-250.
 — — — *Zts. f. Kryst. u. Min.*, v. 7 (1883): 362-365.
 Review: *Neues Jahr. f. Min.*, 1883, Bd. 2. Ref. pp. 164-165.
 Abstract: *Am. Nat.*, v. 16 (1882): 927.
 Abstract: *Jahresber. d. Chem.*, 1883, pt. 2, p. 1862.
 Detailed description of monazite crystals from Millholand's mill. Careful measurements given and compared with those of crystals from other localities.
450. — On the emerald green spodumene from Alexander county, North Carolina.
Am. Jour. Sci., Ser. III, v. 22 (1881): 179-182.
 Abstract by C. A. Tenne: *Neues Jahr. f. Min.*, 1882, Bd. 2. Ref. pp. 345-346.
 Abstract by B. H. Brough: *Chem. Soc. (London) Jour.*, v. 44 (1883): 440.
 Abstract by P. Groth: *Zts. f. Kryst. u. Min.*, v. 6 (1882): 519.
 Detailed crystallographic description of hiddenite from Alexander county.

451. DANA, JAMES DWIGHT.
Contributions to mineralogy.
Am. Jour. Sci., Ser. II, v. 18 (1854): 417.
Figures zircon crystal from McDowell county.
452. — Mineralogical notices: No. III.
Am. Jour. Sci., Ser. II, v. 12 (1851): 205-222.
Mentions rutherfordite occurring at gold mines of Rutherford county, and corundophillite occurring with corundum near Asheville, Buncombe county, analyzed by Shepard.
453. — North Carolina minerals.
(In *his* System of mineralogy. Ed. 3. New York & London, George P. Putnam, 1850. 24 cm. p. 658.)
Contains list of minerals found in North Carolina. Later editions also contain this list.
454. DARTON, NELSON HORATIO.
Artesian well prospects in North Carolina.
(In U. S. Geol. Survey, Bull. 138. Wash., 1896. pp. 190-207.)
General descriptions of wells situated in the Coastal Plain region.
455. — Deep borings in North Carolina.
(In U. S. Geol. Survey, Water-supply and Irrig. Paper No. 149. Wash., 1905. p. 94.)
List of deep borings in Durham, Johnston, Mecklenburg, Moore, New Hanover, Rowan, Stokes, Union and Wilkes counties.
456. — Norfolk folio, Virginia—North Carolina.
U. S. Geol. Survey, Geol. Atlas of U. S., No. 80. Wash., 1902. Plates. Maps.
Lat. 36° 30'-37°, long. 75° 30'-76° 30'; scale 1: 125,000, contour interval, 5 ft.
457. DAUBENY, CHARLES.
Thermal springs of North Carolina.
(In *his* Sketch of the geology of North America. Oxford, Ashmolean Soc., 1839. 20½ cm. pp. 68; 69.)
Short sketch of Hot Springs in Madison county.
458. Davidson copper mining company of North Carolina. Prospectus. . . Baltimore, J. F. Wiley, 1866. 10 pp. 22 cm.
Describes this property located in Davidson county, its workings, and includes a report on the mines by Eugene Gaussoin.
459. DAVIS, ARTHUR POWELL.
Report of progress of stream measurements for the year 1896 in North Carolina.
(In U. S. Geol. Survey, 18th Ann. Rept., pt. 4. Wash., 1897. pp. 47-61; 64-65; 116-118. Illus. Map.)
Gives estimated monthly discharges of the rivers.
460. — River heights in North Carolina in 1896.
(In U. S. Geol. Survey, Water-supply & Irrig. Paper No. 11. Wash., 1898. pp. 15-17.)
Tables of monthly gauge heights of Roanoke, Tar, Neuse, Cape Fear and Yadkin rivers.

461. DAVIS, HERBERT J.

Pyrites in North Carolina.

(In U. S. Geol. Survey, Min. Res., 1885. Wash., 1886. pp. 505-506.)

Describes pyrites deposits in Gaston and Mecklenburg counties

DAVIS, JOSEPH J.

Sketch of the history and resources of Franklin county.

See Green, Davis and Arrington, No. 681.

462. DAVIS, WILLIAM MORRIS.

The Blue Ridge of North Carolina.

Geol. Soc. Amer., Bull., v. 14 (1904): 543.

Discusses physiography of the Blue Ridge.

463. — The geological dates of origin of certain topographic forms on the Atlantic slope of the U. S.

Geol. Soc. Amer., Bull., v. 2 (1891): 545-586.

Abstract: Am. Geol., v. 8 (1891): 260.

Contains a few notes on the cretaceous peneplain of North Carolina.

464. — On the relations of the triassic traps and sandstones of the eastern United States.

Harvard Mus. Comp. Zool., Bull., v. 7 (1883): 249-309.

Abstract by H. Rosenbusch: Neues Jahr. f. Min., 1884, Bd. 1. Ref. p. 230.

Contains general references to North Carolina traprock and sandstone.

465. — The stream contest along the Blue Ridge.

Phila. Geog. Soc., Bull., v. 3 (1903): 213-244.

Describes stream capture in the Blue Ridge as seen from Mt. Mitchell.

466. DAWSON, J. W.

Age of trias of North Carolina.

Can. Nat., v. 3 (1858): 80.

Discusses age of triassic and mentions *Dromatherium sylvestre* (Emmons).

467. DAY, ARTHUR LOUIS and ALLEN, EUGENE THOMAS.

The isomorphism and thermal properties of the feldspars.

Pt. 1. Thermal study by Arthur L. Day and E. T. Allen.

Pt. 2. Optical study by J. P. Iddings. With an introduction by George F. Becker.

Wash., Carnegie Inst. of Wash., 1905. 95 pp. Illus. 26 cm.

Abstract: Am. Jour. Sci., Ser. IV, v. 19 (1905): 93-142.

Review: Am. Jour. Sci., Ser. IV, v. 20 (1905): 72-75.

Gives results of experiments on albite and microcline from Mitchell county, with analyses.

468. DAY, DAVID TALBOT.

Minor minerals of the United States.

Engineering, v. 11 (1896): 299-306; 504-513.

Describes occurrence of mica in Mitchell and Yancey counties, and gives notes on monazite occurrence in Burke and McDowell counties.

469. ——— Phosphate rock in North Carolina.
 (In U. S. Geol. Survey, Min. Res., 1883-1884. pp. 788-793.)
 ——— ——— (In U. S. Geol. Survey, Min. Res., 1885. pp. 449-450.)
 Notes on discovery and mining of phosphate rock.
 Describes deposits in Columbus, Bladen, Sampson, Pender,
 Duplin, and parts of Lenoir, Jones and Onslow counties.
 Table of analyses.
470. ——— Soapstone in North Carolina.
 (In U. S. Geol. Survey, Min. Res., 1893. p. 625.)
471. ——— Zirconium in North Carolina.
 (In U. S. Geol. Survey, Min. Res., 1885. pp. 393-394.)
 Describes occurrence of zircon in Buncombe county.
472. DAY, WILLIAM C.
 Granite and sandstone production in North Carolina.
 (In U. S. Geol. Survey, 16th Ann. Rept., pt. 4 (Non-metallic
 products). Wash., 1895. p. 461.)
 ——— ——— (In U. S. Geol. Survey, 17th Ann. Rept., pt. 3 (Non-metallic
 products). Wash., 1896. p. 765.)
 ——— ——— (In U. S. Geol. Survey, 18th Ann. Rept., pt. 5 (Non-metallic
 products). Wash. 1897. pp. 970-971; 1024.)
 Contains analysis of Mt. Airy granite by C. M. Cresson,
 and of brown sandstone by F. A. Genth, Jr.
 ——— ——— (In U. S. Geol. Survey, 19th Ann. Rept., pt. 6 (Non-metallic
 products). Wash., 1898. pp. 222; 275.)
 ——— ——— (In U. S. Geol. Survey, 20th Ann. Rept., pt. 6 (Non-metallic
 products). Wash., 1899. pp. 279; 429.)
 Contains analysis of sandstone from Moore county by
 Charles Cresson.
473. ——— Stone in North Carolina.
 (In U. S. Geol. Survey, Min. Res., 1889-1890. Wash., 1892.
 pp. 414-415.)
 Extract: Stone, v. 7 (1893): 35-36.
 ——— ——— (In U. S. Geol. Survey, Min. Res., 1891. Wash., 1893. pp.
 459; 460; 463; 470-471; 473.)
 ——— ——— (In U. S. Geol. Survey, Min. Res., 1893. Wash., 1894. pp.
 546; 569-570.)
- DE BENNEVILLE, JAMES S.
 See Benneville, James S. de.
474. DE KALB, COURTNEY.
 Relation of tin to trap dykes.
 Eng. & Min. Jour., v. 45 (1888): 435.
 Discusses occurrence of cassiterite in western North Caro-
 lina in the neighborhood of trap dikes.
475. DELAFONTAINE, MARC.
 Nouvelles observations sur le philippium.
 Archives des Sci. Phy. et Nat., Ser. III, v. 3 (1880): 246-249.
 Abstract: Jahresber. d. Chem., 1880, pp. 297-299.
 Account of further chemical experiments upon the new
 earth philippium, contained in the samarskite of Mitchell
 county and its associated mineral euxenite.

476. — On the hermannolite of Shepard, and on the samarskite of North Carolina.

Am. Jour. Sci., Ser. III, v. 13 (1877): 390.

Abstract by E. S. Dana: *Zts. f. Kryst. u. Min.*, v. 1 (1877): 503.

Brief account of the constituents of these minerals as found by recent examination.

477. — Remarques sur les métaux nouveaux de la gadolinite et de la samarskite.

Acad. des Sci., Comp. Rend., v. 90 (1880): 221-223.

— — — *Frank. Inst., Jour.*, v. 79 (1880): 201-203.

Abstract: *Chem. News*, v. 41 (1880): 72-73.

Abstract: *Jahresber. d. Chem.*, 1880, pp. 296-297.

478. — Samarskite des États-Unis.

Archives des Sci. Phy. et Nat., Ser. II, v. 59 (1877): 176-184.

Abstract: *Jahresber. d. Chem.*, 1877, pp. 251; 288; 1346.

Describes earths contained in samarskite from Mitchell county.

479. — Sur le décipium et ses principaux composés.

Archives des Sci. Phy. et Nat., Ser. III, v. 3 (1880): 250-260.

Account of chemical experiments upon decipium, a rare earth which is stated by author to occur in samarskite from Mitchell county.

480. — Sur le décipium, métal nouveau de la samarskite.

Acad. des Sci., Comp. Rend., v. 87 (1878): 632-635.

Abstract by H. Carrington Bolton: *Science News (Salem, Mass.)*, v. 1 (1879): 73-74.

Abstract by George F. Barker: *Am. Jour. Sci., Ser. III, v. 17 (1879): 61-62.*

Abstract: *Jour. f. prakt. Chem.*, n. f., v. 10 (1879): 47-48.

Abstract: *Jahresber. d. Chem.*, 1878, pp. 259-260.

Mentions new metal found in samarskite of North Carolina, and briefly describes the action of its compounds.

481. — Sur le mosandrum de M. Lawrence Smith.

Acad. des Sci., Comp. Rend., v. 87 (1878): 600-602.

Abstract: *Jour. f. prakt. Chem.*, n. f., v. 19 (1879): 47-48.

Abstract: *Jahresber. d. Chem.*, 1878, p. 262.

482. — Sur le terbium et ses composés et sur l'existence probable d'un nouveau métal dans la samarskite de la Caroline du Nord.

Archives des Sci. Phy. et Nat., Ser. II, v. 61 (1878): 273-282.

Abstract: *Jahresber. d. Chem.*, 1878, pp. 255-257.

Describes chemical experiments on the earths contained in samarskite of North Carolina, resulting in the discovery of the probable existence of a new metal.

483. — Sur un nouveaux métal, le philippium.

Acad. des Sci., Comp. Rend., v. 87 (1878): 559-561.

Abstract: *Chem. News*, v. 38 (1878): 202-203.

Abstract by Henry Carrington Bolton: *Science News* (Salem, Mass.), v. 1 (1879): 73.

Abstract by George F. Barker: *Am. Jour. Sci., Ser. III*, v. 17 (1879): 61.

Abstract: *Jour. f. prakt. Chem.*, n. f., v. 19 (1879): 47-48.

Abstract: *Jahresber. d. Chem.*, 1878, pp. 257-259.

Describes discovery of the oxide of a new metal belonging to the yttria group, and named philippium. Samarskite from North Carolina used in experiments.

DEMING, J. L.

[Olivine norytes near Marshall, North Carolina.]

See Herrick, Clarke and Deming, No. 762.

DE POURTALES, LOUIS FRANÇOIS.

See Pourtales, Louis François de.

484. DES CLOIZEAUX, A.

Sur un mineral qui paraît offrir une forme dimorphe du rutile.

Soc. Min. de France, Bull., v. 9 (1886): 184-186.

Notice: *Am. Nat.*, v. 24 (1890): 173.

Gives crystallographic characters of rutile from Polk county.

485. [Description of North Carolina.]

(In *A new and complete system of universal geography*, . . . v. 2. Edinburgh, R. Morison & Son, 1796. 21½ cm. pp. 465-479.)

Geographical description of the state.

486. [Description of] North Carolina.

(In Warden, D. B. *A statistical, political and historical account of the United States of North America*, v. 2. Edinburgh, 1819. 21 cm. pp. 364-394.)

Description of the state, its resources and products.

487. Description of the oil and iron works of the Deep River Coal & Iron Co.

Min. Mag., Ser. II, v. 2 (1861): 90-94.

488. Descriptive gazette of the Cape Fear and Yadkin Valley Railway.

Wilmington and Northwestern North Carolina. . . Raleigh, Edwards, Broughton & Co., 1884. 85 pp. 23½ cm. Map.

General account of this section of country with notes on mineral deposits.

489. DESOR, E.

Post-pliocene of the Southern States and its relation to the Laurentian of the North and the deposits of the valley of the Mississippi.

Am. Jour. Sci., Ser. II, v. 14 (1852): 49-59.

Discusses post-pliocene deposit at the mouth of the Neuse river.

490. DEVEREUX, WALTER BOURCHIER₁.

Gold and its associated minerals at King's Mountain.

Eng. & Min. Jour., v. 31 (1881): 39-40.

Contains results of observations on the King's Mountain mine, taken below water level. Describes the veins, ores and associated minerals.

491. DEWEY, FREDERICK PERKINS₁.

A preliminary descriptive catalogue of the systematic collections in economic geology and metallurgy in the U. S. National Museum.

U. S. Nat. Mus., Bull. 42. Wash., 1891. 256 pp. 23 cm.

Names many specimens from North Carolina, and includes those in the 10th census iron ore collection, (p. 128).

492. Diamonds in North Carolina.

Am. Jour. Sci., Ser. II, v. 2 (1846): 119.

Describes diamond from Rutherford county.

493. DICKESON, MONTROVILLE WILSON.

Report of the geological survey and condition of the Brown and Edwards' property in the county of Randolph, North Carolina. Phila., J. B. Chandler, 1860. 10 pp. 22 cm.

494. — Report of the geological survey and condition of the Phoenix Mining Co. in the county of Guilford, North Carolina. Phila., J. B. Chandler, 1860. 15 pp. 22 cm.

495. — Report of the geological survey and condition of the Rhea mine in the county of Mecklenburg, North Carolina. Phila., J. B. Chandler, 1860. 10 pp. 20 cm.

Includes report of E. Emmons made in 1853.

496. — Report of the geological survey and condition of the Twin mine in the county of Guilford, North Carolina. Phila., J. B. Chandler, 1860. 11 pp. 22 cm.

497. DICKSON, JAMES.

An essay on the gold regions of the United States.

Geol. Soc. Penn., Trans., v. 1 (1835): 16-32.

Abstract by Robert Jameson: Edin. Phil. Jour., v. 19 (1835): 185-188.

General remarks on gold deposits of North Carolina, in connection with and comparing with other deposits of the U. S.

498. DICKSON, JOHN.

Notices of the mineralogy and geology of parts of South and North Carolina.

Am. Jour. Sci., Ser. 1, v. 3 (1821): 1-4.

- ——— (*In* Struve, Heinrich von. Beiträge zur Mineralogie und Geologie des nördlichen Amerikas . . . Hamburg, 1822. pp. 75-80.)

Notice: Taschenbuch f. die Min., v. 18 (1824): 933-934.

Contains a few topographical notes on western North Carolina, describes a specimen of compact oxide of titanium from Lincoln county, and mentions gold from Cabarrus county.

499. DIEFFENBACH, OTTO.

Bemerkungen über den Mineralreichtum der Vereinten Staaten von Nord-Amerika.

Neues Jahr. f. Min., 1855, pp. 527-532.

Short discussion of the coals of the United States, giving principally a geographical distribution of the coal-bearing formation. Bare mention of the Deep River coal-field.

500. ——— Bemerkungen über den Mineral-Reichthum der Vereinten Staaten von Nord-Amerika.

Neues Jahr. f. Min., 1856, pp. 385-394.

Briefly describes the principal copper mines of North Carolina, comprising the McCulloch, Gold Hill, Vanderbilt, Phoenix and Fentress mines.

501. ——— Beobachtungen über die Erz-Gänge und das Gang-Gebirge von Nord-Carolina und den angrenzenden Staaten.

Neues Jahr. f. Min., 1854, pp. 663-669.

Abstract: Jahresber. d. Chem., 1854, p. 810.

Describes geology, deep weathering and mode of occurrence of the gold and associated minerals in the North Carolina mines.

502. ——— Das Vorkommen von Chrom-Erzen und ihre Verarbeitung in den Vereinten Staaten von Nord-Amerika.

Neues Jahr. f. Min., 1855, pp. 533-539.

Mentions presence of chrome ores in Virginia and North Carolina.

503. DILLER, JOSEPH STILAS.

Origin of palæotrochis.

Elis. Mit. Sci. Soc., Jour., v. 16 (1899): 59-67.

—— ——— Am. Jour. Sci., Ser. IV, v. 7 (1899): 337-342.

Review by M. L. Fuller: Am. Chem. Research, Rev., v. 5 (1899): 75.

Abstract by Milch: Neues Jahr. f. Min., 1901, Bd. 1. Min., p. 411.

Discussion of *Palæotrochis*, described as a fossil sponge by Emmons, and proved to be a spherulite by the author. Analysis by W. F. Hillebrand of specimen from the Sam Christian mine, Montgomery county.

504. DIMMOCK, GEORGE.

A trip to Mt. Mitchell in North Carolina.

Appalachia, v. 1 (1877): 141-151.

Entertaining account of climbing Mt. Mitchell; notes on scenery, mountains, rocks, flora, with brief account of Prof. Elisha Mitchell.

505. Discovery of Lake Scuppernong (Phelps), North Carolina, with notes by Maj. George P. Collins.
Southern Hist. Assoc., Pub., v. 6 (1902): 21-27.
 Description of discovery of Lake Scuppernong, situated within the Dismal Swamp, by Josiah and Joseph Phelps.
506. Dismal Swamp canal.
Niles' Register, v. 29 (1825): 247.
 Brief notice of Dismal Swamp canal which connects Chesapeake and Albemarle sounds.
507. Dismal Swamp canal.
 Reports in relation to Dismal Swamp canal.
U. S. 50th Cong., 2d Sess., 1889. Sen. Mis. Doc. No. 89. 70 pp. Map.
 Various reports and communications on history, condition and progress of the Dismal Swamp canal.
508. DORSEY, CLARENCE W. *and others.*
 Soil survey of the Statesville area, North Carolina.
(In U. S. Dept. Agric., Field Operations, Bureau of Soils, 3d Rept., 1901. Wash., 1902. pp. 273-295. Map.)
 Detailed descriptions of soils in the area, with notes on the geology, physiography and climate. Many analyses of soils.
509. DOUGLASS, E. A.
 Report of progress in improving navigation of Cape Fear and Deep rivers.
(In Cape Fear and Deep River Navigation Co., Rept. 1855-1856. N. C. Gen. Assem., Sess. 1856-1857. Doc. No. 13, pp. 17-20.)
510. DRAKE, J. A. *and* BELDEN, H. L.
 Soil survey of New Hanover county, North Carolina.
(In U. S. Dept. Agric., Field Operations, Bureau of Soils, 8th Rept., 1906. pp. 245-279. Map.)
 Detailed description of soils of area with analyses, and notes on topography and climate.
511. DUANE, J. C.
 [River and harbor improvements in North Carolina.]
(In Chief of Eng. Rept., 1886, pt. 1. Wash., 1886. pp. 153-169.)
- 511a. ——— *(In Chief of Eng. Rept., 1887, pt. 1. Wash., 1887. pp. 121-134.)*
512. DUFFIELD, WILLIAM WARD.
 [Operations in North Carolina in 1894.]
(In U. S. Coast & Geod. Survey, Rept. 1894, pt. 1. Wash., 1895. p. 26.)
 Account of survey of Outer Diamond shoal off Cape Hatteras.

513. DUNCAN, W. C.

North Carolina.

DeBow's Review, v. 11 (1851): 30-40; 105-122.

Compiled sketch on history, geography and general resources. Topographical description of state. Quotes Olmsted in regard to minerals and describes the coal and iron deposits in detail.

514. DUNNINGTON, FRANCIS, PERRY.

Analysis of a mineral from Webster, Jackson county, North Carolina.

Chem. News, v. 25 (1872): 270.

Description of specimen which resembles pimelite from Silesia.

515. — Analysis of genthite (nickel-gummite) from North Carolina.

Chem. News, v. 25 (1872): 270.

Abstract by JOHN WATTS: Chem. Soc. (London) Jour., v. 25 (1872): 680-681.

Abstract: Jahresber. d. Chem., 1872, pp. 1120-1121.

Description and analysis of genthite from Webster, Jackson county.

516. DU PRÉ, WARREN.

On a series of earthquakes in North Carolina, commencing on the 10th of February, 1874.

Smith. Inst., Bd. of Regents, Ann. Rept., 1874, pp. 254-260.

Abstract: Nature, v. 13 (1875): 94.

Account of earthquakes in vicinity of Stone Mountain.

517. DUTTON, GEORGE.

Oracock bar, North Carolina.

U. S. 21st Cong., 2d Sess., 1831. House Ex. Doc. No. 40.

5 pp.

Report on progress of removing obstructions at Oracock bar, outlining methods of opening channel.

518. EAKINS, L. G.

Analysis of iron ore from Troy, North Carolina.

(In U. S. Geol. Survey, Bull. 78. Wash., 1891. p. 126.)

519. — Meteoric iron from North Carolina.

Am. Jour. Sci., Ser. III, v. 39 (1890): 395-396.

Abstract by B. H. Brough: Chem. Soc. (London) Jour., v. 58 (1890): 1081.

— (In U. S. Geol. Survey, Bull. 78. Wash., 1891. pp. 93-94.)

— (In U. S. Geol. Survey, Bull. 148. Wash., 1897. p. 244.)

— (In U. S. Geol. Survey, Bull. 168. Wash., 1900. p. 241.)

Abstract by E. Cohen: Neues Jahr. f. Min., 1891, Bd. 1. Ref. p. 242.

Description and analysis of meteoric iron found in 1880 near Ellenboro, Rutherford county.

520. — Note on xanthitane.

Am. Jour. Sci., Ser. III, v. 35 (1888): 418-419.

Notice: Am. Nat., v. 22 (1888): 735.

- — (In U. S. Geol. Survey, Bull. 60. Wash., 1890. p. 135.)
 Abstract by E. S. Dana: Zts. f. Kryst. u. Min., v. 17 (1889): 401.
 Abstract: Soc. Min. de France, Bull., v. 12 (1889): 500.
 Description and analysis of xanthitane from Henderson county.
521. — Xenotime from North Carolina.
 (In U. S. Geol. Survey, Bull. 113. Wash., 1893. p. 112.)
 Describes mineral from Brindletown, Burke county.
522. — Zoisite from North Carolina.
 (In U. S. Geol. Survey, Bull. 113. Wash., 1893. p. 111.)
 Analysis of zoisite from James' mica mine, Yancey county.
523. EAMES, RICHARD, JR.
 Copper in North Carolina.
 Eng. & Min. Jour., v. 83 (1907): 583.
 Describes geological occurrence of copper veins and ores, with notes on the Union, Gold Hill and Ashboro mines in Rowan county, the Ore Knob mine in Ashe county and the Conrad Hill mine in Davidson county.
524. — Copper in North Carolina in 1907.
 (In Mineral Industry, v. 16 (1908): 292-293.)
 Notes on mining at Gold Hill.
525. — Gold and copper mines of the south.
 Mineral Industry, v. 12 (1903): 463-464.
 — — Eng. & Min. Jour., v. 77 (1904): 37.
 Notes on mining operations at the Barringer and Iola mines in 1903.
526. — A North Carolina development.
 Eng. & Min. Jour., v. 79 (1905): 376.
 Account of mining, granite and water-power properties in Montgomery, Rowan and Stanly counties, purchased by the Whitney Co., including the Relmer mine and Rowan granite quarry in Rowan county, and the Barringer mine in Stanly county.
527. The earthquake scare in North Carolina.
 Pop. Sci. Month., v. 13 (1878): 635.
 Notes on rumblings and so-called earthquakes of Bald mountain.
528. EATON, AMOS.
 The gold of Mexico in a rock equivalent to that which contains the gold of North Carolina.
 Am. Jour. Sci., Ser. I, v. 20 (1831): 124.
 Describes specimen of gold from Mexico, with its gangue and wall rock which precisely resembles those from North Carolina.
529. — The gold of the Carolinas in talcose slate.
 Am. Jour. Sci., Ser. 1, v. 18 (1830): 50-52.
 Abstract: Bull. des Sci. Nat. et de Géol., v. 26 (1831): 259-260.
 Description of specimens of gold, gangue and wall rock from the gold mines near Charlotte.
530. EATON, HARRY, NELSON.
 Micropegmatite at Chapel Hill.
 Elis. Mit. Sci. Soc., Jour., v. 24 (1908): 104-105.
 Microscopical description of micropegmatite near Chapel Hill.

531. — Micro-structure and probable origin of flint-like slate near Chapel Hill, North Carolina.
Elis. Mit. Sci. Soc., Jour., v. 24 (1908): 1-8.
532. ECKEL, EDWIN CLARENCE.
 Iron-ores in North Carolina in 1906.
(In U. S. Geol. Survey, Min. Res., 1906. Wash., 1907. p. 88.)
 Mentions deposits of magnetic ore at the Cranberry mine in Mitchell county.
533. — Portland cement resources of North Carolina.
(In U. S. Geol. Survey, Bull. 243. Wash., 1905. pp. 267-268.)
 Describes limestone deposits in Cherokee county; marls on the Neuse river, near Wilmington in New Hanover county, and those limestones suitable for cement manufacture.
534. EDSON, HELEN R.
 Frost forms on Roan mountain.
Pop. Sci. Month., v. 45 (1894): 30-39.
 Notes on temperatures and climate on Roan mountain.
535. EDWARDS, RICHARD.
 The State of North Carolina.
(In his Statistical gazetteer of the States of Virginia and North Carolina . . . Richmond, for the proprietor, 1856. 22 cm. pp. 469-597.)
 Contains notes on physiography, soil, climate and mineral resources.
536. EGGLESTON, THOMAS.
 Copper refining at Ore Knob, North Carolina.
Am. Inst. Min. Eng., Trans., v. 9 (1880): 699-700; 729-730.
 Contains analyses of refining slags resulting from treatment of sulphurous ores at Ore Knob, and analyses of the copper ore.
537. — The Hunt and Douglas copper process.
Engineering, v. 22 (1876): 419-420; 437-438.
 Description of the Hunt and Douglas process for the reduction of copper in use at the Ore Knob mine, Ashe county.
538. — Investigations on the Ore Knob copper process.
Am. Inst. Min. Eng., Trans., v. 10 (1881): 25-57.
 — — — *Eng. & Min. Jour.*, v. 32 (1881): 254-255; 268-269.
 — — — Published separately. 33 pp.
 Describes mining operations at the Ore Knob mine in Ashe county, the Hunt and Douglass process in use, and gives analyses of the ores.
539. — The Thies process of barrel chlorination.
Sch. of Mines Quart., v. 11 (1890): 138-147.
 Describes this process as operated successfully at the Phoenix mine.

540. EIGHTS, JAMES.

The College and Hepler copper mines.

Min. Mag., Ser. 1, v. 2 (1854): 198-199.

Descriptive notes on these mines located 20 miles south-west of Greensboro.

541. — North Carolina, its geology, mining regions, scenery.

Min. & Stat. Mag., v. 10 (1858): 183-188; 268-273; 369-373; 423-427.

General popular description of the state from observations taken in an imaginary geological journey from the coast westward.

542. — Report in relation to the Fisher Hill and Pucket mines in Guilford county, North Carolina. Fisher Hill, N. C., 1854. 7 pp. 22 cm.

Describes geology, veins and ores of this property.

543. — A report on the geological, mineralogical and other resources of the Hiatt tract of land, containing 2000 acres and situated in the county of Surry, North Carolina. Greensborough, 1855. 8 pp. 21 cm.

Describes topography, geological structure and mineralogical character of this property.

544. ELLERY, J. G.

The property of the Catawba mining company in McDowell county, North Carolina.

Min. Mag., Ser. I, v. 3 (1854): 15-25.

Describes topographical features of district, geological formation, veins, ores and workings of this mine.

545. ELLET, WILLIAM H.

Gold mining by the hydraulic process in North Carolina and Georgia.

Min. & Stat. Mag., v. 10 (1858): 27-30.

Concise account of hydraulic mining as in operation in Burke and McDowell counties.

546. ELLIOTT, JOHN B.

The age of the southern Appalachians.

Am. Jour. Sci., Ser. III, v. 25 (1883): 282-298.

Abstract by Kayser: Neues Jahr. f. Min., 1883, Bd. 2. Ref. pp. 350-351.)

Discusses formations of the Blue Ridge and Smoky mountains.

547. The Emerald and Hiddenite Mining Company. Prospectus. . . New York, E. H. Coffin, 1882. 16 pp. 20 cm.

Description of discovery of this mine located near Stony Point, Alexander county, and its subsequent development.

548. EMMENS, STEPHEN H.

The nickel deposits of North Carolina.

Eng. & Min. Jour., v. 53 (1892): 476-477.

Describes nickel deposits at Webster, Jackson county.

549. EMMONS, EBENEZER.

Agriculture. Containing descriptions, with many analyses of the soils of the swamp lands. Raleigh, W. W. Holden, 1860. 95 pp. 23 cm.

Appendix: Brief descriptions of the mineral springs and well waters which occur in and about Raleigh.

Discusses character and composition of the soils of the swamp lands, their mode of formation, geological age, with geographical position and extent.

550. — Agriculture of North Carolina, pt. 2: containing a statement of the principles of the science upon which the practices of agriculture as an art are founded. Raleigh, W. W. Holden, 1860. 112 pp. 23 cm.

Treats the principles of agriculture in an elementary way, describes varieties of soils, composition of the rocks which furnish the soils, and states results of experiments in the use of different fertilizers.

551. — American geology, containing a statement of the principles of the science, with full illustrations of the characteristic American fossils. Albany, N. Y., Sprague & Co., 1855. 2 pts. in 1 vol. Plates. 24½ cm. Pt. 6. Albany, N. Y., Sprague & Co., 1857. 147 pp. Plates. 24½ cm.

Describes North Carolina "Taconic" rock structure, auriferous veins and ores, and economic mineral deposits. Many references to North Carolina geology throughout the book. Pt. 6 gives account of Chatham series, and figures and describes numerous triassic fossils.

552. — Appendix to the special report made to . . . Gov. Bragg relative to the resources of the valley of Deep river and its advantages as a site for a national foundry.

MSS., Raleigh, March 27, 1858. 5 pp. 32 cm.

Contains descriptions of several varieties of iron ore newly discovered near Buckhorn Falls, and descriptions and chemical analyses of ores from the Deep River valley.

553. — The chemical constitution of certain of the Chatham series in the valley of Deep river, North Carolina.

Am. Assoc. Adv. Sci., Proc., 12th meet. (1858): 230-232.

Abstract: Neues Jahr. f. Min., 1859, p. 511.

554. — [Coal in North Carolina.]

Acad. Nat. Sci. Phila., Proc., [v. 16] (1859): 162.

Discusses the debituminization of coal.

555. — Fossils of the sandstones and slates of North Carolina.

Am. Assoc. Adv. Sci., Proc., 11th meet., pt. 2 (1857): 76-80.

Discusses fossil-bearing horizons which lie obliquely across the state from Granville county to Union county.

556. — Geological and agricultural survey.

N. C. Gen. Assem., Sess., 1860-1861. Ex. Doc. No. 26.

Raleigh, 1861. 6 pp. 21 cm.

Report of re-examination of the mountain counties and enumeration of general mineral and agricultural resources.

557. — Geological report of the midland counties of North Carolina. New York, Putnam; Raleigh, H. D. Turner, 1856. 351 pp. 21 cm. Illus. Plates. Maps. 24 cm.
Review by C[hester] D[ewey]; Am. Jour. Sci., Ser. II, v. 24 (1857): 427-429.
Abstract of review: Neues Jahr. f. Min., 1858, pp. 358-359.
Deals with geology of the midland counties and describes in detail the rock formations, metallic veins, ores, mines and mining methods. The Gold Hill, Conrad Hill and McCullock mines are described and a detailed account given of the Deep and Dan River coal beds, the organic remains found there, and the iron and manganese deposits.
558. — Gold veins in the syenetic granite of the Salisbury and Greensborough belt, North Carolina.
Min. Mag., Ser. II, v. 2 (1861): 25-36.
Extract from the "Midland counties," discussing the McCullock, Fisher Hill, Lindsay, Gardner, Rudisil, Dunn, Phoenix, Orchard, Barnhardt, Gold Hill, Pioneer, Long and Rhymer mines. Describes the rock formations, veins, ores and their treatment, mining operations and production.
559. — Manual of geology. Designed for the use of colleges and academies. Phila., Sower, Barnes & Co., 1860. 290 pp. 20 cm. Ed. 2. New York, A. S. Barnes & Burr, 1860. 296 pp. 22 cm.
Contains many references to North Carolina geology and paleontology. Describes Chatham beds and triassic series in Wake and Orange counties.
560. — National foundry.—Deep River, N. C. Special report concerning the advantages of the valley of the Deep river as a site for the establishment of a national foundry. Raleigh, Holden & Wilson, 1857. 14 pp. 23 cm.
— — — Min. Mag., Ser. I, v. 10 (1858): 281-288.
Enumerates advantages which the Deep River valley affords as a site for a national foundry, describes coal and iron ores and gives chemical analyses.
561. — A national foundry in North Carolina.
DeBow's Review, v. 24 (1858): 403-409.
Letter to Governor Bragg setting forth advantages of the Deep River valley as a site for a national foundry, describing the soil and climate, the coal and iron ores and stone quarries.
562. — North Carolina iron.
Min. Mag., Ser. I, v. 1 (1853): 198-199.
Discusses iron deposits at Deep River.
563. — [On age of trias in Virginia and North Carolina.]
St. Louis Acad. Sci., Trans., v. 1 (1860): 101-102.
Letter from Prof. Emmons on examination of his collection of fossil plants from North Carolina by Prof. Heer of Zurich, discussing their geological age.
564. — On new fossil corals from North Carolina.
Am. Jour. Sci., Ser. II, v. 22 (1856): 389-390.
Abstract: Neues Jahr. f. Min., 1857, pp. 123-124.
Description of supposed fossil specimens from Montgomery county, named *Palaeotrochis major* and *Palaeotrochis minor*.

565. — Permian and triassic systems of North Carolina.
 Edin. Phil. Jour., n. s., v. 5 (1857): 370.
 Abstract: Neues Jahr. f. Min., 1857, p. 343.
 Describes remains of thecodont saurians found in what author regards as permian, and fossil plants found in the coal measures.
566. — Remarks on the head of *Clepsysaurus*.
 Acad. Nat. Sci. Phila., Proc., [v. 59] (1859): 150-151.
 Notice of specimens of *Palæotrochis* and description of a fossil head (*Clepsysaurus*) found in Chatham county.
567. — Report of Prof. Emmons on his geological survey of North Carolina.
 N. C. Gen. Assem., Sess. 1852. Ex. Doc. No. 13. 181 pp. 23 cm.
 Deals with two principal subjects: soils and agriculture of the lower counties, and the coal-fields of Rockingham, Stokes, Chatham and Moore counties. Describes in detail the tertiary marl beds situated largely upon the Neuse, Tar, Roanoke and Cape Fear rivers, and gives many analyses of these marls and account of the fossils found therein. Describes the coal fields of the Deep and Dan rivers in detail.
568. — Report of the North Carolina geological survey. Agriculture of the eastern counties, together with descriptions of the fossils of the marl beds. Raleigh, Henry D. Turner, 1858. 314 pp. 23 cm.
 Deals with character and classification of the soils of the eastern counties, with notes on the topography of the district, composition and character of the soils and clays. Describes the greensand with its characteristic fossils, and fossils found in the marl beds on the Cape Fear and Neuse rivers.
569. — Report of the progress and present state of the geological and agricultural survey of North Carolina.
 N. C. Gen. Assem., 1855. Ex. Doc. Raleigh, W. W. Holden, 1855. 20 pp. 21 cm.
 Account of geological investigations in Stanly, Anson, Richmond, Montgomery, Chatham, Moore, Bladen, Johnston, Wake, Granville, Person, Caswell, Rockingham, Stokes, Surry, Ashe, Yadkin, Wilkes, Davie and Davidson counties, with especial reference to the mining and agricultural resources.
570. — Report on the natural resources of that part of North Carolina west of the Blue Ridge.
 (In N. C. Gen. Assem., Sess. 1860-1861. Ex. Doc. No. 25. Appendix b. Raleigh, 1861. pp. 7-9.)
 Notes on physiography of western North Carolina, and the mineral and agricultural resources of Haywood, Macon and Cherokee counties.
571. — [Report on the Rhea mining property, Mecklenburg county, North Carolina.]
 Min. Mag., Ser. I, v. 2 (1854): 307-309.
 Description of veins and ores found on this property.
572. ENDEMANN, HERMANN and LOEW, OSCAR.
 On the earth contained in the zircons of North Carolina.
 N. Y. Lyc. Nat. Hist., Annals, v. 9 (1869): 211-213.
 Analyses of zircon from Henderson county.

573. ENGLISH, GEORGE, LETCHWORTH.

Monazite and the wonderful Carolina sands.

Mineral Collector, v. 10 (1904): 169-170.

Abstract of a lecture delivered at the Brooklyn Institute. Describes the monazite mines of North Carolina, occurrence and geological distribution of monazite.

574. ERVIN, W. C.

Catawba valley and highlands, Burke county, western North Carolina. Morganton, N. C., 1896. 40 pp. 23 cm. Map.

General description of the county, including the mines and mineral deposits.

575. Extended use of some of the rarer minerals.

Eng. & Min. Jour., v. 46 (1888): 1-2.

Notes on Monazite sand occurring in Burke, Polk, McDowell, Rutherford and Alexander counties, and on zircon from Henderson county.

576. FARIS, ROBERT L.

Results of magnetic observations in North Carolina, between July 1, 1906, and June 30, 1907, and descriptions of stations.

(In U. S. Coast & Geod. Survey, Rept. 1907. Wash., 1908. Appendix 5, pp. 170; 200-202.)

577. FARRINGTON, OLIVER CUMMINGS.

Analyses of iron meteorites compiled and classified.

Field Columbian Museum, Pub. No. 20. Geol. Ser., v. 3, No. 5 (1905): 59-110.

Includes following North Carolina meteorites: Lick Creek, Black Mountain, Duel Hill, Asheville, Guilford county, Bridgewater, Smith's Mountain, Deep Springs.

578. FEATHERSTONEHAUGH, THOMAS.

A private mint in North Carolina.

Southern Hist. Assoc., Pub., v. 10 (1906): 67-77.

—— ——— (Wash., n. d. 11 pp. 22 cm.

Popular account of a private mint established at Rutherfordton by Christopher Bechler in 1831.

579. FIEBEGER, GUSTAVE, JOSEPH.

Improvement of Currituck sound, Coanajok bay and North river bar, North Carolina.

(In Chief of Eng. Rept., 1890, pt. 1. Appendix J 6, pp. 1027-1029.)

580. ——— Improvement of North Landing river, Virginia and North Carolina.

(In Chief of Eng. Rept., 1890, pt. 1. Appendix J 5, p. 1027.)

—— ——— (In Chief of Eng. Rept., 1891, pt. 2. Appendix K 8, pp. 1304-1305.)

581. — Preliminary examination of Northwest river, North Carolina, up to Moyock.

(*In* Chief of Eng. Rept., 1891, pt. 2. Appendix K 14, pp. 1321-1324.)

Describes river and general character of country along the river. Map.

582. FINLEY, JOHN P.

State tornado charts, North Carolina.

Am. Meteor. Jour., v. 6 (1889): 322-325.

Gives table of tornadoes from 1826-1888.

FISHER, HENRY.

{Barite in North Carolina.}

See Struthers and Fisher, No. 1751.

— Copper in North Carolina.

See Struthers, Newland and Fisher, No. 1752.

583. — Mica in North Carolina.

Mineral Industry, v. 11 (1902): 467.

Describes mica deposits in Mitchell, Yancey, Jackson, Haywood and Macon counties.

584. FLEURY, A. L.

Report of an examination of the High Shoals property. Pittsburg, Pa., 1866. 15 pp. 23 cm.

Describes geological formation, veins and ores found on this property in Gaston county, with notes on the Asbury, Dickson and Briggs mines.

585. FLIGHT, WALTER.

{Meteorites from North Carolina.}

(*In* his Chapter in the history of meteorites. London, Dulac & Co., 1887. 24 cm. pp. 54; 68; 72; 127; 211.)

Description of the Rockingham county, Madison county and Nash county meteorites. Chemical analyses of those from Madison and Nash counties.

586. FONTAINE, WILLIAM, MORRIS.

Notes on fossil plants collected by Dr. Ebenezer Emmons from the older mesozoic rocks of North Carolina.

(*In* U. S. Geol. Survey, 20th Ann. Rept., pt. 2. Wash., 1900. pp. 279-315.)

Contains detailed descriptions of fossils found by Dr. Emmons and preserved at Williams College in Massachusetts. These are described by Dr. Emmons in his "American Geology."

587. — The older mesozoic flora of {North Carolina}.

(*In* U. S. Geol. Survey, Monographs, v. 6, pt. 3. Wash., 1883. pp. 97-128.)

Review: *Annals Nat. Hist.*, Ser. V, v. 16 (1885): 517.

Review: *Pop. Sci. Month.*, v. 28 (1885): 129.

Review by Lester F. Ward: *Science*, v. 5 (1885): 280-281.

Review by Geyler: Neues Jahr. f. Min., 1887, Bd. 2. Ref. pp. 513-514.

Author gives an account of the mesozoic plants taken from Emmons' "American Geology," and compares Emmons' descriptions and conclusions regarding these fossils with his own. Gives list of plants found mostly in the Deep River belt in Orange, Anson and Chatham counties.

588. — The Potomac formation near Weldon, North Carolina.
(In U. S. Geol. Survey, Bull. 145. Wash., 1896. pp. 16; 24-25.)

589. — Report of work done during 1888-1889.
(In U. S. Geol. Survey, 10th Ann. Rept., pt. 1. Wash., 1890. p. 174.)

Discusses so-called "Trias." of North Carolina, between Greensboro and Raleigh, and reports on an investigation of localities named by Prof. Emmons as affording some of his fossil specimens.

590. FOOTE, A. E.
On a probable pseudomorphism of gummite and uranotil after uraninite.

Acad. Nat. Sci. Phila., Proc., [v. 32] (1880): 292.

Describes 20 crystals plainly pseudomorphs after some pre-existing crystal in a collection from Mitchell county.

591. FORBES, EDWARD.
New species of cretaceous shells.

Geol. Soc. London, Quart. Jour., v. 1 (1845): 61-63.

Ostrca subspatulata is described and figured from South Washington, on Lewis' creek, North Carolina.

592. Forest reserve in the southern Appalachian mountain region.
U. S. 56th Cong., 2d Sess., 1901. Sen. Rept. No. 2221. 14 pp. Map.

Report on bill presenting petition for a forest reserve in the southern Appalachians, which region includes part of the mountain district in North Carolina. General description of physiographic features of region.

593. FOSTER, J. W.
Fossil elephant in North Carolina.

Am. Assoc. Adv. Sci., Proc., 10th meet., pt. 2 (1856): 166.

Refers to fossil bones found by Conrad in the upper tertiary deposits on the banks of the Neuse river.

594. FOSTER, JAMES T.
A brief sketch of the early discoveries of gold mines and mining in North Carolina down to the present time. Greensboro, 1883. 13 pp. (Not seen.)

595. FOSTER, JOHN, BATES.
Brief history of the surveys and charts made of the Cape Fear river between its mouth and Wilmington; the reports rendered and plans of improvement proposed at various times; the works executed; under whose plans, and the resulting effects upon the navigation of the river.

(In Chief of Eng. Rept., 1873. Appendix T 21, pp. 804-815.)

— — (In U. S. 42d Cong., 3d Sess. House Ex. Doc. No. 108. pp. 4-20.)

596. FOULLON, H. VON.

Ueber Verwitterungsproducte des Uranpecherzes, und über die Trennung von Uran und Kalk.

K. K. geol. Reichsanst., Jahr., v. 33 (1883): 1-29.

Abstract by Streng: Neues Jahr. f. Min., 1885, Bd. 2. Ref. pp. 21-22.

Detailed description of alteration of uraninite from Mitchell county, North Carolina, and analysis of the resulting products.

597. FOUST, J. I. and ALLEN, NETTIE M.

North Carolina. (Supplementary volume to Tarr & McMurtry geographies.) New York, MacMillan, 1906. 76 pp. Map.

General geographical description of the state with account of mineral products and mining.

598. FOX, S. MOYLAN.

Report on survey of western turnpike.

N. C. Gen. Assem., Sess. 1850-1851. Ex. Doc. No. 5. 16 pp. 21 cm.

Survey from French Broad river west to head of Scott's creek and east to Salisbury.

599. FRAZER, PERSIFOR, JR.

The mesozoic sandstone of the Atlantic slope.

Am. Nat., v. 13 (1879): 284-292.

A résumé of the views of Heinrich, Fontaine and Russell on the mesozoic formation of Virginia and North Carolina, and a review of papers by these authors on the subject.

600. — On a specimen of quartz from Australia, and three specimens of oligoclase from North Carolina exhibiting curious optical properties.

Brit. Assoc. Adv. Sci., Rept. 1888. pp. 655-656.

601. FULLER, MYRON L^[ESLIE].

The occurrence and uses of mica.

Stone, v. 19 (1899): 530-532.

Popular account of the mica deposits of western North Carolina, mode of occurrence and economic value.

602. — and SANFORD, SAMUEL.

Record of deep well drilling for 1905-1906 in North Carolina.

(In U. S. Geol. Survey, Bull. 298. Wash., 1906. pp. 124-125; 245-246.)

Describes wells at Kinston, Lenoir county, and at Fort Caswell, New Hanover county.

603. FULLER, MYRON LESLIE.

Underground waters of North Carolina.

(In U. S. Geol. Survey, Water-supply & Irrig. Paper No.

114. Wash., 1905. pp. 136-139.)

Describes development of the Potomac formation as the most important water-bearing formation in Harnett, Moore and Richmond counties. Gives list of deep wells in this region, and of mineral springs in the Piedmont plateau.

604. FULTON, HAMILTON.

Report on a proposed line of canal from Plymouth to the Pungo river. . .

(In North Carolina, Board of Internal Improvement. Extracts from "Reports on public improvements in North Carolina." Raleigh, 1837. 21 cm. pp. 14-15.)

605. — Report on the drainage of the Brown and White marshes in Bladen and Columbus counties.

(In North Carolina, Board of Internal Improvement, Ann. Rept. for 1822. Raleigh, 1822. 23 cm. pp. 16-19.)

— — (In North Carolina, Board of Internal Improvement. Extracts from "Reports on public improvements" in the State of North Carolina. Raleigh, 1837. 21 cm. pp. 12-14; 16.)

606. — Reports of Mr. Fulton to the Board of Internal Improvement of North Carolina.

(In North Carolina, Board of Internal Improvement, Ann. Rept. to the Gen. Assem. for 1821. Raleigh, J. Gales, 1821. pp. 1-55.)

Reports on practicability of opening communication from Albemarle sound to the Atlantic Ocean, and on conditions of rivers in the state.

607. — Reports of Mr. Fulton to the Board of Internal Improvement of North Carolina, for 1822.

(In North Carolina, Board of Internal Improvement, Ann. Rept. to the Gen. Assem. for 1822. Raleigh, J. Gales & Son, 1822. 23 cm. pp. 1-72.)

Contains reports of works of improvement carried on during the year on the Neuse river, Roanoke canal, Clubfoot and Harlow's Creek canal: on drainage of the Brown and White marshes in Bladen and Columbus counties; on the Cape Fear, Roanoke, Dan, Broad and Tar rivers, and on various roads in the state.

608. — Reports of sundry surveys made by Hamilton Fulton, State engineer, agreeably to certain instructions from Judge Murphey, and submitted to the General Assembly in 1819.

(In Murphey, A. D. Report of sundry surveys in 1819. Raleigh, T. Henderson, 1819. 22 cm. pp. 42-70.)

Reports of examinations of the Roanoke, Tar, Neuse, Cape Fear and Yadkin rivers, and on progress of Fayetteville canal.

609. — Reports on sundry public works.
(In North Carolina, Board of Internal Improvement, Ann. Rept. to the Gen. Assem., Raleigh, J. Gales & Son, 1824. 23 cm. pp. 13-28.)
 Report of improvements made upon the Cape Fear river.
610. — Reports to the Board of Internal Improvement of North Carolina.
(In North Carolina, Board of Internal Improvement, Ann. Rept. to the Gen. Assem., 1820. Raleigh, J. Gales, 1820. 21 cm. pp. 1-56.)
 Contains reports on conditions for navigable purposes of the Clubfoot and Harlow's Creek canal; on the necessity of buoys on the coast and inlets; on the Fayetteville and Roanoke canals; on the Cape Fear river and inlets; on the practicability of opening a communication from Albemarle sound to the Atlantic; on obstructions at Ocracoke inlet; on the Tar, Broad, Yadkin and Catawba rivers.
611. FURMAN, JOHN H.
 The tin deposits of North Carolina.
N. Y. Acad. Sci., Trans., v. 8 (1889): 136-145.
 Describes discovery of tin at King's Mountain, the formations, veins, lodes and mining operations.
612. GABB, WILLIAM M.
 Notes on American cretaceous fossils with descriptions of some new species.
Acad. Nat. Sci. Phila., Proc., [v. 28] (1876): 276-324.
 Names and describes a few species from the Ripley group of the North Carolina cretaceous. Two specimens are from Snow Hill.
613. GALE, HOYT S.
 Water resources of Cowee and Pisgah quadrangles, North Carolina.
(In U. S. Geol. Survey, Water-supply & Irrig. Papers No. 110. Wash., 1905. pp. 174-176.)
 Describes rivers, drainage systems, mineral springs and rock formations in parts of Macon, Jackson, Swain, Haywood, Transylvania, Buncombe and Henderson counties.
614. GALLATIN, ALBERT.
 Chesapeake and Albemarle.
(In U. S. 17th Cong., 1st Sess., 1808. Repts. of Committees, v. 1, No. 8, pp. 18-20; 24-26.)
 Contains notes on progress of Dismal Swamp canal connecting Deep creek in Virginia with Joyce's creek, a branch of Albemarle sound in North Carolina, and on progress of improvement of navigation on the Catawba river.
615. — Chesapeake and Albemarle canal.
(In Report on roads and canals. Am. State Papers, Misc., v. 1, U. S. 10th Cong., 1st Sess., 1808. Wash., 1834. pp. 727-728; 762-765.)
 Describes progress made in opening canal through the Dismal Swamp from Deep creek in Virginia to Joyce's creek in North Carolina.

616. GANNETT, HENRY.

Boundaries of [North Carolina].

(In U. S. Geol. Survey, Bull. 13. Wash., 1885. pp. 92-96.)

—— — (In U. S. Geol. Survey, Bull. 171. Wash., 1900. pp. 98-102.)

—— — (In U. S. Geol. Survey, Bull. 226. Wash., 1904. pp. 99-103.)

Historical description of boundaries of the state, and account of its charters.

617. — Corundum in [North Carolina in 1882].

(In U. S. Geol. Survey, Min. Res., 1882. Wash., 1883. pp. 476-477.)

Notes on Cullakenee corundum mine: Corundum Hill locality, Macon county; and occurrence of corundum in Jackson, Haywood and Madison counties.

618. — Dictionary of altitudes in [North Carolina].

(In U. S. Geol. Survey, Bull. 5. Wash., 1884. pp. 223-226.)

—— — (In U. S. Geol. Survey, Bull. 160. Wash., 1899. pp. 532-543.)

—— — (In U. S. Geol. Survey, Bull. 274. Wash., 1906. pp. 758-775.)

619. — Dictionary of geographic positions in [North Carolina].

(In U. S. Geol. Survey, Bull. 123. Wash., 1895. pp. 78-79.)

620. — Physiographic types.

U. S. Geol. Survey, Topog. Atlas, Folio 2. Wash., 1900.

Includes "A coast swamp," Norfolk sheet, Virginia and North Carolina.

621. — Profiles of rivers [in North Carolina].

(In U. S. Geol. Survey, Water-supply & Irrig. Paper No. 44. Wash., 1901. pp. 23-26; 51-54.)

Notes on drainage basins and profiles of the following rivers: Roanoke, Dan, Cape Fear, Great Pedee, Hiwassee, Little Tennessee, Big Pigeon, Nantahala, Tuckasegee, French Broad, and Nolichucky, with their tributaries.

622. — Results of primary triangulation in [North Carolina].

(In U. S. Geol. Survey, Bull. 122. Wash., 1894. pp. 95-97; 100-111.)

Describes and gives location of all U. S. Coast and Geod. Survey, and all U. S. Geol. Survey triangulation stations in western North Carolina.

623. GANNETT, SAMUEL, S_TINSON.

Results of primary triangulation and primary traverse [in North Carolina].

(In U. S. Geol. Survey, Bull. 276. Wash., 1905. pp. 86-107.)

—— — (In U. S. Geol. Survey, Bull. 310. Wash., 1907. pp. 63-67.)

Lists of geographic positions in Sampson, Cleveland, Gaston, Cabarrus, Iredell, Lincoln, Rowan, Mecklenburg, Union, Chowan, Gates, Hertford, Pasquotank, Perquimans, Bertie, Johnston and Wayne counties.

624. Garnet mining in North Carolina.

Eng. & Min. Jour., v. 84 (1907): 275.

Notes on garnet mining in Madison county.

625. GATCHELL, EDWIN A.

The standard guide to Asheville and western North Carolina. Asheville, F. L. Jacobs, 1887. 65 pp. 24 cm. Illus.

626. GATCHELL, HORATIO P.

Western North Carolina: its agricultural resources, mineral wealth, climate, salubrity and scenery. Asheville, N. C., E. J. Aston, 1870. 24 pp. 21 cm. New York, A. L. Chatterton Pub. Co., 1885. 32 pp. 16 cm.

627. GEMMEL, WILLIAM.

Iron and coal resources of North Carolina.

DeBow's Review, v. 27 (1859): 351.

Extract from a letter describing iron and coal deposits in Deep River valley, Chatham county.

628. GENTH, FREDERICK, AUGUSTUS.

Allanite from North Carolina.

(In Contributions to mineralogy. Am. Phil. Soc., Proc., v. 24 (1887): 42-43.)

Abstract by S. L. Penfield: Neues Jahr. f. Min., 1888, Bd. 1, Min., p. 188.

Abstract by B. H. Brough: Chem. Soc. (London) Jour., v. 54 (1888): 564.

Abstract by E. S. Dana: Zts. f. Kryst. u. Min., v. 14 (1888): 295.

Describes allanite from near Statesville. Analysis by Harry F. Keller.

629. — Analysis of the emerald-green spodumene from North Carolina.

Am. Jour. Sci., Ser. III, v. 23 (1882): 68.

— — — Eng. & Min. Jour., v. 33 (1882): 81.

— — — Jahresber. d. Chem., 1882, p. 1558.

— — — Neues Jahr. f. Min., 1882, Bd. 2. Ref. p. 346.

Abstract by E. S. Dana: Zts. f. Kryst. u. Min., v. 6 (1882): 522
Analysis of hiddenite from Alexander county.

630. — Bismuthite from a new locality.

Am. Jour. Sci., Ser. II, v. 23 (1857): 427.

Notes discovery of bismuthite at Charlotte by Dr. Asbury, (?)

631. — Contributions to mineralogy.

Am. Jour. Sci., Ser. II, v. 16 (1853): 81-86.

— — — Jour. f. prakt. Chem., v. 60 (1853): 272-274.

Abstract by W. B.: Zts. f. d. Gesam. Naturwiss., v. 3 (1854): 66-67.

Abstract: Jahresber. d. Chem., 1853, p. 777.

Abstract: Neues Jahr. f. Min., 1855, p. 198.

Descriptions and analyses of tetradyomite from Davidson county, and of gray copper from McMackin's mine, Cabarrus county.

632. — Contributions to mineralogy.

Am. Jour. Sci., Ser. II, v. 19 (1855): 15-23.

— Jour. f. prakt. Chem., v. 64 (1855): 466-474.

Abstract by W. B.: Zts. f. d. Gesam. Naturwiss., v. 5 (1855): 395-398.

Abstract: Neues Jahr. f. Min., 1856, pp. 36-37; 350-351; 445; 565; 1857, pp. 432-433; 434-435; 439.

Abstract: Jahresber. d. Chem., 1855, pp. 909-910.

Abstract: Pharm. Centr., 1855, p. 389.

Describes and gives analyses of tetradymite from Davidson county, barnhardite and gray copper from Cabarrus county. Describes tungstates from Cabarrus and Davidson counties, and wavelite from the Washington mine, Davidson county.

633. — Contributions to mineralogy.

Am. Jour. Sci., Ser. II, v. 28 (1859): 246-255.

Abstract: Min. Mag., Ser. II, v. 1 (1859): 147-150; 159-160.

Abstract: Phil. Mag., Ser. IV, v. 18 (1859): 318-320.

Abstract: Jour. f. prakt. Chem., v. 80 (1860): 421-426.

Abstract: Uebersicht der Resultate mineralogischer Forschungen im Jahre 1860. Leipzig, 1862. p. 65.

Describes following minerals from North Carolina: barnhardite; albite from the Steele mine, Montgomery county, (analysis by J. P. Pöpplein); ripidolite; scheelite from Cabarrus and Mecklenburg counties, with analyses; rhombic tungstate of lime from the Flowe mine, Mecklenburg county. Contains notes on the occurrence of gold in Cabarrus and Rowan counties.

634. — Contributions to mineralogy.

Am. Jour. Sci., Ser. II, v. 33 (1862): 190-206.

Abstract: Jour. f. prakt. Chem., v. 88 (1863): 257-265.

Abstract: Soc. Chim., Bull., 1863, pp. 324-328.

Abstract: Jahresber. d. Chem., 1862, pp. 745; 750; 762; 780.

Abstract: Uebersicht der Resultate mineralogischer Forschungen im Jahre 1860. Leipzig, 1862. pp. 202; 217.

Describes following minerals: proustite (?) adhering to tetrahedrite (?) from the McMackin mine, Cabarrus county; leopardite from Montgomery county, with analysis; two varieties of chrysolite from Webster, Jackson county, with analyses; monazite from Mecklenburg county.

635. — Contributions to mineralogy.

Am. Jour. Sci., Ser. II, v. 45 (1868): 305-321.

Abstract by Em. Kopp: Soc. Chim., Bull., v. 10 (1868): 383-387.

Abstract: Jour. f. prakt. Chem., v. 105 (1868): 252.

Abstract: Jahresber. d. Chem., 1868, p. 1000.

Abstract: Neues Jahr. f. Min., 1868, p. 844.

Mentions discovery of tetradymite in Davidson county, and two new localities of this mineral, the Phoenix and Boger mines in Cabarrus county, with analysis of variety from the Phoenix mine.

636. — Contributions to mineralogy.

Am. Jour. Sci., Ser. III, v. 39 (1890): 47-50.

Mentions specimens of blue corundum in grayish brown rhartzite found at Statesville.

637. — Contributions to mineralogy. No. 20.

Am. Phil. Soc., Proc., v. 20 (1882): 381-404.

Abstract: Am. Jour. Sci., Ser. III, v. 24 (1882): 398-399.

Abstract: Am. Nat., v. 16 (1882): 1032-1033.

Abstract by Streng: Neues Jahr. f. Min., 1883, Bd. 2. Ref. pp. 316; 324.

Abstract by B. H. Br₁rough: Chem. Soc. (London) Jour., v. 46 (1884): 267-268; 274.

Abstract: Jahresber. d. Chem., 1883, pt. 2, pp. 1835-1837; 1873; 1894.

Abstract: Zts. f. Kryst. u. Min., v. 9 (1884): 87.

Describes occurrence and products of alteration of corundum in western North Carolina, and gives many chemical analyses. Describes and gives analysis of gahnite from the Deake mica mine, Mitchell county.

638. — Corundum, its alterations and associated minerals.

Am. Phil. Soc., Proc., v. 13 (1873): 361-406.

— Jour. f. prakt. Chem., n. f., v. 9 (1874): 49-112.

Review: Am. Jour. Sci., Ser. III, v. 6 (1873): 461-462.

Review by F. W. R.: Geol. Mag., Dec. 11, v. 1 (1874): 174-175.

Abstract: Neues Jahr. f. Min., 1873, p. 956; 1874, pp. 84-85; 86-88; 536-537.

Abstract: Zts. f. d. Gesam. Naturwiss., v. 43 (1874): 257-258.

Abstract: Quart. Jour. Science, v. 11 (1874): 265.

Abstract by H₁enry, W₁atts: Chem. Soc. (London) Jour., v. 27 (1874): 549-551; 1068-1069.

Abstract: K. K. Geol. Reichsanst., Verh., 1873, pp. 318-319.

Abstract: Jahresber. d. Chem., 1873, pp. 1151-1160.

Contains detailed description of occurrence of corundum in the western counties of North Carolina. Describes the Cullsagee mine in Macon county, and the Cullakane mine in Clay county, and gives account of the alteration of corundum, its associated minerals and many chemical analyses.

639. — Examination of the North Carolina uranium minerals.

Am. Chem. Jour., v. 1 (1879): 87-93.

— Chem. News, v. 40 (1879): 210-212.

Review by E. S. Dana: Am. Jour. Sci., Ser. III, v. 18 (1879): 153-154.

Notice: Frank. Inst., Jour., v. 79 (1880): 116-120.

Abstract: Am. Chem. Soc., Jour., v. 1 (1879): 281-282.

Abstract: Eng. & Min. Jour., v. 28 (1879): 128.

Abstract by L. T. O'Shea: Chem. Soc. (London) Jour., v. 38 (1880): 96-97.

Abstract: Jahresber. d. Chem., 1880, p. 1433.

Abstract: Neues Jahr. f. Min., 1880, Bd. 1. Ref. pp. 35-37.

Abstract: Zts. f. Kryst. u. Min., v. 4 (1880): 385-386.

Examination and analyses of following minerals from the Flat Rock mine, Mitchell county: uranotil, gummit, phosphuranylite, a new species.

640. — Ilmenite from Carter's mine. North Carolina.

Am. Phil. Soc., Proc., v. 23 (1886): 42-43; 46.

Abstract: Jahresber. d. Chem., 1885, pt. 2, pp. 2270; 2297.

Abstract: Neues Jahr. f. Min., 1887, Bd. 1. Ref. pp. 254-257.

Description and analysis of ilmenite (analysis by Harry F. Keller), from a corundum vein in the chrysolite rock at Carter's mine, and analysis of titanite from mica schist near Statesville.

641. — [Löllingite from North Carolina.]

Am. Jour. Sci., Ser. III, v. 44 (1892): 384.

Abstract by F. Gröning: Zts. f. Kryst. u. Min., v. 23 (1894): 596.

Analysis of specimen from Drum's farm, Alexander county.

642. — and KERR, W. [ASHINGTON] C. [ARUTHERS].

Minerals and mineral localities of North Carolina, being Chapter 1 of the second volume of the Geology of North Carolina. Raleigh, P. M. Hale & Edward Broughton, 1881. 122 pp. 24 cm. Raleigh, P. M. Hale, 1885. 128 pp. 23 cm.

Notice: Am. Jour. Sci., Ser. III, v. 21 (1881): 410.

Review by M. E. Wadsworth: Am. Nat., v. 15 (1881): 380-382.

Abstract by G. W. Hawes: Neues Jahr. f. Min., 1881, Bd. 2. Ref. pp. 338-339.

Notice by Henry Watts: Chem. Soc. (London) Jour., v. 42 (1882): 147.

General survey of mineralogy of the state, giving localities, occurrence, associations and descriptions of about 178 species of minerals, together with many chemical analyses. Contains brief synopsis of minerals and localities by counties, descriptions of 14 authenticated North Carolina meteorites, and an addendum by W. E. Hidden giving results of his mineralogical explorations in search of platinum.

643. GENTH, F. [FREDERICK] A. [UGUSTUS].

Minerals of North Carolina.

(Appendix C to Kerr, W. C., Rept. Geol. Survey of North Carolina. Raleigh, Josiah Turner, 1875. 24 cm. pp. 53-88.)

Notice: Am. Jour. Sci., Ser. III, v. 3 (1872): 146.

Detailed account of native elements, metals, economic and gem minerals found in the state, with their localities and mode of occurrence.

644. — The minerals of North Carolina.

U. S. Geol. Survey, Bull. 74. Wash., 1891. 119 pp. 23 cm.

Abstract: Am. Geol., v. 9 (1892): 342.

Notice: Am. Nat., v. 26 (1892): 702.

Abstract by W. S. Bayley: Neues Jahr. f. Min., 1893, Bd. 1. Min., p. 261.

Detailed descriptions of the native elements, the sulphides and tellurides of metals, economic and gem minerals, their localities, and many analyses of the minerals. Account of the mines and mining operations in the separate counties, and a synopsis of minerals and localities by counties.

645. — [On a meteorite from Rockingham county, North Carolina.]

Am. Phil. Soc., Proc., v. 11 (1871): 443.

Description and analysis of meteoric iron from Rockingham county.

646. — On a new variety of gray copper.
Acad. Nat. Sci. Phila., Proc. [v. 6] (1853): 296-297.
 Description and analysis of perhaps a new mineral found at McMackin's mine, Cabarrus county.
647. — On American tellurium and bismuth minerals.
Am. Phil. Soc., Proc., v. 14 (1874): 223-226.
 ——— *Jour. f. prakt. Chem.*, n. f., v. 10 (1874): 355-367.
 Abstract by G. T. Atkinson; *Chem. Soc. (London) Jour.*, v. 28 (1875): 430.
 Abstract: *Jahresber. d. Chem.*, 1874, p. 1231.
 Abstract: *Neues Jahr. f. Min.*, 1875, pp. 188; 314.
 Detailed account of altaite as it occurs at King's Mountain mine, Gaston county. Notes on tetradymite observed in quartz from the gravel deposits of Burke and McDowell counties.
648. — On the mineral resources of North Carolina.
Frank. Inst., Jour., v. 63 (1872): 48-61; 114-130.
 ——— *Practical Mag.*, v. 3 (1874): 452-459.
 Review: *Am. Jour. Sci., Ser. III*, v. 3 (1872): 146.
 General description of the geology of the state, gold mines and mining operations, and mineral deposits occurring principally in the central and western counties.
649. — Report on the Stewart gold mine of Union county, North Carolina. *Phila.*, 1856. 6 pp. 22 *cm.*
 Describes geological formations, veins and mode of occurrence of the ores at this mine.
650. — [Zircon from North Carolina.]
Am. Jour. Sci., Ser. III, v. 40 (1890): 116; 117-118.
 Abstract by F. Rinne: *Neues Jahr. f. Min.*, 1893, Bd. 2. *Min.*, pp. 460-461.
 Descriptions and analyses of a zircon crystal from Mar's Hill, Madison county, and of titaniferous garnet from Jones mine, Henderson county.
651. Geography of the South Atlantic and Gulf States. New York, 1878. xvi pp. 28½ *cm.*
 Describes North Carolina, pp. viii. Map.
652. The Geological Survey of North Carolina.
Eng. & Min. Jour., v. 55 (1893): 293-294.
 Historical notes on the N. C. Geol. Survey, account of work done up to 1893 and a list of publications to be issued.
653. Geology and mineral resources of Piedmont and western North Carolina.
 (MSS. Geology, Misc. Papers, pub. by Southern Railway Co., Aug., 1896. 13 pp.)
 Describes geology, topography and mineralogy of the state. MSS. in possession of North Carolina Geological Survey.
654. GIBBES, ROBERT, WILSON.
 [Fossil tooth from North Carolina.]
Am. Assoc. Adv. Sci., Proc., 3d meet. (1850): 69.
 Refers to a fossil *Elephas* molar found in Duplin county.

655. GIBBON, J. H.

Gold of North Carolina.

Am. Jour. Sci., Ser. I, v. 48 (1845): 398-399.

Describes the recent workings of the sands of the Catawba river.

656. — Meteorite in North Carolina.

Am. Jour. Sci., Ser. II, v. 9 (1850): 143-146.

—— — Phil. Mag., Ser. III, v. 36 (1850): 240-242.

Abstract: Ann. Sci. Discovery, 1850, pp. 275-276.

Abstract: L'Institut, v. 18 (1850): 183-184.

Abstract: Jahresber. d. Chem., 1850, p. 824.

Abstract by C. U. Shepard: Am. Jour. Sci., Ser. II, v. 10 (1850): 127.

Abstract: Kennigott, G. A. Uebersicht der Resultate mineralogischer Forschungen in den Jahren 1850 und 1851. Wien, 1853. p. 180.

Account of meteorite falling near Charlotte, on Oct. 31, 1849, at 3 p. m.

657. GIBBS, WALCOTT.

Frederick Augustus Genth.

Am. Acad. Arts & Sci., Proc., v. 28 (1893): 393-394.

Short biographical sketch.

658. GILLESPIE, G. L.

River and harbor improvements in North Carolina.

(In Chief of Eng. Rept., 1901, pt. 1. Wash., 1901. pp. 296-310.)

658a. — — (In Chief of Eng. Rept., 1902, pt. 1. Wash., 1902. pp. 223-237.)

658b. — — (In Chief of Eng. Rept., 1903, pt. 1. Wash., 1903. pp. 225-243.)

659. GILMAN, D_{ANIEL} C_{IT}.

Prof. Guyot's measurements of the Alleghany system.

Am. Jour. Sci., Ser. II, v. 30 (1860): 391-392.

Brief account of Prof. Guyot's work among the Great Smoky mountains and Blue Ridge, with topographic notes.

660. GIPPERICH, FREDERICK.

Report on the gold mines of the Philadelphia and North Carolina mining and smelting company. Phila., John H. Schwacke, 1847. 17 pp. 21 cm. Map.

Describes geological formations, veins and shafts on property five miles from Rutherfordton, Rutherford county.

661. GLASER, CHARLES.

Analysis of a coarse monazite sand from Shelby, North Carolina.

Am. Chem. Soc., Jour., v. 18 (1896): 792.

662. — Analysis of a fine monazite sand from Bellewood, North Carolina.

Am. Chem. Soc., Jour., v. 18 (1896): 793.

663. GLENN, LEONIDAS C[HALMERS].

The Hatteras axis in triassic and miocene time.

Am. Geol., v. 23 (1899): 375-379.

Discusses evidence from triassic and later sedimentation pointing to the existence of the Hatteras region as one of minimum movement since triassic time.

664. — Notes on a new meteorite from Hendersonville, North Carolina. . .

Am. Jour. Sci., Ser. IV, v. 17 (1904): 215-216.

Abstract by E. Cohen: Geol. Centralblatt, v. 5 (1904): 243.

Abstract by G. Linck: Neues Jahr. f. Min., 1907, Bd. 1. Min., p. 366.

Describes stony meteorite which fell about 1876 near Hendersonville.

665. GLENN, WILLIAM.

Chrome in the southern Appalachians.

Am. Inst. Min. Eng., Trans., v. 25 (1895): 481-499.

Discusses in a general way the distribution of chrome ores in Yancey, Madison, Buncombe and Haywood counties. Mentions occurrence of nickel ore at Webster, Jackson county.

666. Glimmer in Nordcarolina.

Zts. f. prakt. Geol., 1901, p. 349.

Notes on occurrence of mica in Yancey, Wilkes, Watauga, Ashe and Mitchell counties.

667. Gold and copper in North Carolina.

DeBow's Review, v. 15 (1853): 320-322.

Brief account of gold and copper resources, mentioning the Gold Hill mine in Rowan county, and the Fentress mine in Guilford county.

668. Gold and silver produced by the mines of America from 1492-1848.

Min. Mag., Ser. I, v. 1 (1853): 365-373.

Notes on the Washington, Reed and Gold Hill mines of North Carolina. Describes veins, ores, methods of working mines and statistics regarding output and values.

669. Gold mine in North Carolina.

Am. Mag., v. 1 (1841): 158.

Notice of discovery of a vein of gold on the lands of Mr. Flowe on Clear creek.

670. Gold mines near Charlotte, North Carolina.

Min. Mag., Ser. I, v. 2 (1854): 69-70.

Brief sketch of the mines in the vicinity of Charlotte, including the Gold Hill, Washington, Lawson and Howie mines.

671. Gold mines of North Carolina.

Min. Mag., Ser. 1, v. 1 (1853): 513-514.

Brief notes on the Gold Hill mine in Rowan county, Capps mine in Mecklenburg county and the Reed mine in Cabarrus county.

672. Gold mines of North Carolina. Descriptions and values of the mining properties of the North Carolina mining and bullion company. [New York, 1890.] 16 pp. 23 cm.

Contains notes on mines and minerals of the state.

673. GORE, J. W.

Latitude of Chapel Hill.

Elis. Mit. Sci. Soc., Jour., v. 2 (1885): 32-33.

674. GRAHAM, CAMPBELL.

Report upon the practicability of an outlet from Albemarle sound to the ocean, 1843.

MSS. U. S. War Dept., Office of Chief of Eng., Wash., D. C.
27 pp.

675. Granites from Asheville, North Carolina. Compression tests.

(In Report of the tests of metals . . . made at the Watertown Arsenal, Massachusetts, for the year 1905. Wash., 1906. 23 cm. pp. 419-421.)

Tests on material from quarry 5 miles southeast of Salisbury, and from the Balfour granite quarry about 18 miles south of Asheville.

676. GRATON, LOUIS, CARYL.

The Carolina tin belt.

(In U. S. Geol. Survey, Bull. 260. Wash., 1905. pp. 188-195.)

Review: Min. Mag., v. 11 (1905): 477.

Abstract by W. L. C.: Iron Age, v. 78 (1906): 1163.

Outlines general geology of the Carolina tin belt in parts of Cleveland, Gaston and Lincoln counties. Describes tin-bearing rock, ore, development and economic importance of deposits, and the Faires and Jones mines in Cleveland and Gaston counties.

677. ——— [Copper in North Carolina in 1907.]

(In U. S. Geol. Survey, Min. Res., 1907, pt. 1. Wash., 1908. p. 620.)

Notes on copper production from the Virgilina district in Person and Granville counties, and from Gold Hill, Rowan county.

678. ——— and SCHALLER, WALDEMAR, T.

Purpurite, a new mineral.

Am. Jour. Sci., Ser. IV, v. 20 (1905): 146-151.

——— Zts. f. Kryst. u. Min., v. 41 (1905): 433-438.

Abstract by Leonard, T. Spencer: Chem. Soc. (London) Jour., v. 88, pt. 2 (1905): 724.

Description and analyses of purpurite, discovered at the Faires tin mine, Gaston county.

679. GRATON, LOUIS, CARYL.

Reconnaissance of some gold and tin deposits of the southern Appalachians.

U. S. Geol. Survey, Bull. 293. Wash., 1906. 118 pp. 23 cm.

Extract: Mining World, v. 25 (1906): 634.

Deals with economic geology of the North Carolina gold and tin belts. Describes distribution of the ore deposits, mining developments, mines and prospects, with brief account of the other mineral products of the region.

680. GRAVE, CASWELL.

The oyster reefs of North Carolina: a geological and economic study.

Johns Hopkins Univ. Circ., v. 20 (1901): 50-53.

Abstract: Geol. Centralblatt, v. 3 (1903): 11.

A detailed study of the oyster reefs located in Newport river, describing the gradual change of the reefs into islands, and the discovery of new beds where previous attempts to locate them had failed.

681. GREEN, WILLIAM, DAVIS, JOSEPH J. and ARRINGTON, ARTHUR J.

Sketch of the history and resources of Franklin county, prepared for North Carolina State Exposition. Franklinton, N. C., 1884. 10 pp. 22½ cm.

GROSSCUP, BEN S.

The Heart of the Alleghanies. . .

See Zeigler and Grosscup, No. 1934.

682. GROVER, N. C. and HOYT, JOHN C.

Progress of stream measurements in North Carolina.

(In U. S. Geol. Survey, Water-supply & Irrig. Paper No. 126. Wash., 1905. pp. 94-95; 100-103; 106-119.)

682a. ——— (In U. S. Geol. Survey, Water-supply & Irrig. Paper No. 167. Wash., 1906. pp. 102; 107-109; 112; 114-122.)

Contains descriptions of drainage basins, and tables of discharge measurements of the Roanoke, Dan, Yadkin, Reddie, Mulberry, Roaring, Mitchell and Ararat rivers.

683. GROVER, N. C.

Surface water supply of North Carolina in 1906.

(In U. S. Geol. Survey, Water-supply & Irrig. Paper No. 203. Wash., 1907. pp. 82-83; 86-94.)

Descriptions of drainage basins, and tables of daily gauge heights at stations on the Roanoke, Dan, Yadkin and Cape Fear rivers.

684. Guidebook of western North Carolina. . . Salem, N. C., L. V. & E. T. Blum, 1878. 109 pp. 20 cm.

Brief descriptions of the western counties with notes on soils, climate, rock formations, mineral deposits and mineral springs therein.

685. GULLIVER, F. P.

Cusate forelands.

Geol. Soc. Amer., Bull., v. 7 (1896): 399-422.

Abstract: Am. Geol., v. 17 (1896): 98.

Describes numerous cusps, shoals and stream deflections along the North Carolina coast, and discusses their causes.

686. GUYNN, WALTER.

Report of a reconnaissance of a line for a railroad between the city of Raleigh and Goldsborough on the line of the Wilmington and Raleigh railroad.

(In North Carolina, Board of Internal Improvement. Report to the Gen. Assem. N. C. Gen. Assem., 1840. Ex. Doc. No. 16. 21 cm. pp. 46-49.)

Topographical account of county through which this survey was made.

687. — Report on the Cape Fear and Deep river improvement.
 N. C. Gen. Assem., Sess. 1856-1857. Ex. Doc. No. 46. 8 pp.
 21 cm.
 Reviews present condition of these rivers, describes work of improvement.
688. — Report on the draining of the swamp lands.
(In Report of President and Directors of the literary fund of North Carolina to the Gen. Assem., showing the fiscal operations of the Board and the progress made in draining the swamp lands. N. C. Gen. Assem., 1840. Ex. Doc. No. 6. Raleigh, 1840. 22 cm. pp. 6-11.)
 Describes swamp lands in Washington, Hyde, Tyrrell and Carteret counties, outlines benefits to be derived from drainage and progress already made.
689. — Report upon the practicability and probable cost of opening an inlet at Nag's Head.
 N. C. Gen. Assem. Ex. Doc. No. 8. Raleigh, 1840. 20 pp.
 22 cm.
- 689a. — — U. S. 26th Cong., 1st Sess., 1840. Sen. Doc. No. 603. 15 pp.
- 689b. — — U. S. 26th Cong., 2d Sess., 1841. House Ex. Doc. No. 97. 15 pp.
- 689c. — — U. S. 26th Cong., 2d Sess., 1841. Sen. Ex. Doc. No. 132. 15 pp.
 Report of survey and examination with object of opening communication between Albemarle sound and the ocean at Nag's head, North Carolina. Describes closing of Roanoke inlet about 1810.
690. GUYOT, ARNOLD.
 Measurements of the mountains of western North Carolina.
(In Selections from the speeches and writings of Thomas L. Clingman. . . Raleigh, John Nichols, 1878. pp. 138-147.)
 — — *(In Southern Pictures and Pencilings, v. 2, No. 2, 1900.)*
 Letter written to the *Asheville News*, containing lists of altitudes of principal peaks made from 1856 to 1859.
691. — Notes on the geography of the mountain district of western North Carolina, founded on observations in the summers of 1856, 1858, 1859, 1860.
 MSS. Princeton, N. J., 1863. 86 pp. In possession of U. S. Coast & Geod. Survey, Washington, D. C.
 Descriptions of the district, mountain altitudes, rock formations, river basins and climate.
692. — On the Appalachian mountain system.
 Am. Jour. Sci., Ser. II, v. 31 (1861): 157-187.
 — — Can. Nat., v. 6 (1861): 51-58.
 Abstract: Annual Sci. Discovery, 1861, pp. 276-278.
 Describes physical characteristics and gives heights of peaks in the Black mountains of North Carolina.

693. H.

Mining at the Boston exhibition. The North Carolina exhibit.

Eng. & Min. Jour., v. 36 (1883): 260-261.

Enumerates mineral specimens from North Carolina at this exhibition. Gives table of iron ore analyses by Hanna, Schaeffer and Genth, and a table of assays of the gold mines.

694. H., A. H.

Asheville, North Carolina. Asheville, N. C., 1886. 55 pp. 17 cm. Map.

Descriptive notes on climate and general advantages of Asheville.

695. H., F. L.

Mountains of North Carolina.

Am. Geog. & Stat. Soc., Jour., v. 1 (1859): 19-21.

Gives Buckley's barometric measurements of numerous peaks.

696. HAFFER, CLAUDE.

Notes on mining in North Carolina.

Mining World, v. 28 (1908): 332-333.

Announces discovery of gold on the Iola property in Montgomery county, describes development and operation of the Iola, Montgomery and Golconda mines, and gives notes on the Sam Christian, Russell, Steele, Carter, Reynolds, Moore and Appalachian mines.

697. HALE, E. J.

Improvement of the Cape Fear river. Published by order of the Chamber of Commerce. Fayetteville, N. C., 1907. 15 pp. 27½ cm.

Outlines in part the improvement of Cape Fear river, and presents reasons why the improvement should be continued.

698. HALE, PETER M.

In the coal and iron counties of North Carolina. Raleigh, P. M. Hale; N. Y., E. J. Hale & Son, 1883. 425 pp. 19 cm. Map.

A compilation of information from various sources of the general resources of the central and western counties of the state. Includes extracts from the reports of Emmons on the Deep River coal deposits; the reports of Kerr on coal and iron ores, topography and general mineral resources of the country; from the reports of Wilkes and Laidley on the Deep River region.

699. HALL, JAMES.

An account of a supposed artificial wall discovered under the surface of the earth in North Carolina, in a letter to James Woodhouse (and Dr. Woodhouse's reply).

Med. Repos., v. 2 (1799): 272-278.

Description of this wall (diabase dike) discovered about 14 miles from Salisbury.

700. HALL, W. C. and HOYT, JOHN C.
Catawba river from Marion, North Carolina to Connelly Springs, North Carolina.
(*In* River surveys and profiles of 1903. U. S. Geol. Survey, Water-supply and Irrig. Paper No. 115. Wash., 1905. pp. 13-17.)
Brief account of survey of Catawba river in 1903, with table of elevations and profile of the river.
701. HALLOCK, CHARLES.
Physiography of a pocoson.
Goldthwaite's Geog. Mag., v. 3 (1892): 373-376.
Description of these elevated swamps of the North Carolina coast, with notes on their fauna and flora.
702. HANKS, HENRY G.
[Mineral resources of] North Carolina.
(*In* Cal. State Mining Bureau. Fifth annual report of the State Mineralogist, 1885. Sacramento, 1885. 25 cm. pp. 176-184.)
Notes on mineral resources of the state. Contains letter from C. D. Smith in regard to the geological formations, mode of occurrence of the gold veins, and mining operations, and a paper by Wm. Earl Hidden on the minerals of North Carolina shown at the Louisiana (New Orleans) Exposition.
703. HANNA, GEORGE BYRON.
The fineness of native gold in the Carolinas and Georgia.
Eng. & Min. Jour., v. 42 (1886): 201.
Describes quality of gold found at the Phoenix, Reed, Rudisil, Gold Hill, Howle and Burke county mines.
704. ——— Geology of North Carolina.
(*In* Western North Carolina . . . Charlotte, N. C., 1890. 27 cm. pp. 9-56.)
Account of topography, geology and general and mineral resources of the state.
- Gold deposits of North Carolina.
See Nitze and Hanna, No. 1291.
705. ——— [Mines and mining in North Carolina during 1880.]
(*In* U. S. Mint, Prod. of precious metals in U. S. in 1880. Wash., 1881. pp. 169-175.)
706. ——— Mines of the Appalachian ranges.
Sch. of Mines Quart., v. 3 (1882): 208-211.
A general description of the gold mines. Notes on the rock formations, mining methods, production and values.
- Ores of North Carolina. . .
See Kerr and Hanna, No. 992.
707. ——— Statistics of mines and minerals in North Carolina collected by the Mining Board of Charlotte, N. C. Charlotte, N. C., 1878. 15 pp. 21 cm.

708. HARBISON, T. G.

Stone products of North Carolina.

Stone, v. 3 (1890): 47-48.

Brief notes on the rocks and minerals of the mountain region, principally gold, iron, mica and corundum.

709. The harbor and improvements of Cape Fear river and bar below Wilmington.

(In Past, present and future of Wilmington, N. C., J. S.

Reilly, N. C. 26 cm. pp. 44-47.)

A historical account of these improvements.

710. HARLAN, R.

Notice of two new fossil mammals from Brunswick canal, Georgia; with observations on some fossil quadrupeds of the United States.

Am. Jour. Sci., Ser. I, v. 43 (1842): 141-144.

Brief description of *Sus americana* from Newbern, North Carolina.

711. HARN, E. H.

Some crystallized micas of North Carolina.

Mineral Collector, v. 3 (1896): 24-25.

Describes mica crystals found in Alexander, Lincoln and Gaston counties.

712. HARRIS, E[LIJAH] P[ADDOCK].

The chemical constitution and chronological arrangement of meteorites. An inaugural dissertation. . . Göttingen, 1859.

131 pp. 21 cm.

Notes on the following meteorites of North Carolina: Asheville, Black Mountain, Caswell, Charlotte (Cabarrus), Guilford, Hominy Creek, Haywood, Randolph.

HARRIS, G[ILBERT] D[ENNISON].

Neocene in North Carolina.

See Dall and Harris, No. 442.

713. HARRIS, HUNTER L.

History of the Atlantic shore line.

Elis. Mit. Sci. Soc., Jour., v. 11 (1894): 33-50.

Discusses changes which may have taken place in the Atlantic shore line since Cambrian time, including the North Carolina coast.

714. — A new instance of stream capture.

Bost. Soc. Nat. Hist., Proc., v. 26 (1893): 27-29.

— — Science, v. 22 (1893): 36-37.

Study of Hominy Creek drainage basin.

715. — A North Carolina catalan or blomary forge.

Elis. Mit. Sci. Soc., Jour., v. 8 (1891): 67-70.

Describes a blomary forge on Helton creek in Ashe county.

716. HARRIS, THOMAS C.

Kaolin.

(In N. C. Agric. Exp. Station, Bull., v. 14, No. 2 (1893): 1-2.)

Notes on economic uses of kaolin and on its occurrence in Jackson, Macon, Burke, Transylvania, Catawba, McDowell and Lincoln counties.

717. HARRIS, WADE H.

The May flood (1901) in the southern Appalachian region.

Forestry & Irrigation, v. 8 (1902): 105-109.

Description of this flood occurring in the Catawba River valley.

718. HAUPT, L_TEWIS, M_TUHLBERG_J.

The physical phenomena of harbor entrances.

Am. Phil. Soc., Proc., v. 25 (1888): 19-41.

Discusses the Atlantic coast, and gives data regarding the coast and rivers of North Carolina.

719. HAUSER, WILLIAM.

North Carolina mines.

Am. Jour. Mining, v. 6 (1868): 372-373; v. 7 (1869): 37; 52; 84; 117-118; 228-229.

Notes on gold occurrence and mining in Iredell, Alexander, Caldwell, Watauga and Cabarrus counties.

720. HAVENS, JONATHAN.

The New Bern and Pamlico section of North Carolina. New Bern, N. C., N. S. Richardson & Son, 1886. 88 pp. 20 cm.

General description, with notes on the several counties, scenery and canals.

721. HAWKS, FRANCIS LISTER, *supposed author*.

Hints on the internal improvement of North Carolina, respectfully addressed to his countrymen by a North Carolinian. New York, John F. Trow, 1854. 50 pp. 23 cm. Map.

Detailed account of physical condition of the state, giving many suggestions as to improvements of harbors, inlets and rivers, and general commercial interests.

722. HAWKS, FRANCIS LISTER_J.

History of North Carolina, with maps and illustrations. Fayetteville, N. C., E. J. Hale & Son, 1857-1858. 2 vs. 23 cm.

Review: North Amer. Review, v. 91 (1860): 40-71.

Contains numerous extracts from early descriptions, and reproductions and drawings of early maps, throwing light on the geography and exploration of the state. Vol. 1 was also issued in 1858-1859. Some authority points to a third volume having been printed and the entire edition destroyed in the Civil War.

723. HAYES, C_THARLES, W_TILLARD_J and CAMPBELL, MARIUS R.

Geomorphology of the southern Appalachians.

Nat. Geog. Mag., v. 6 (1894): 63-126.

Describes and classifies the main topographic features of the southern Appalachian region.

724. HAYES, CHARLES, WILLARD.

The southern Appalachians.

Nat. Geog. Monograph, v. 1 (1895): 305-336.

Describes physiographic features of the mountain region of North Carolina, characteristics of the intermontaine valleys, general geologic history and conditions, drainage systems, and outlines physiographic development of the southern Appalachians.

HAZARD, DANIEL L.

General report on the magnetic survey of North Carolina.

See Baylor and Hazard, No. 82.

725. ——— Magnetic survey of North Carolina.

U. S. Coast & Geod. Survey, Bull. 41. Wash., 1901. 12 pp.
29 cm.

726. HEADDEN, WILLIAM P.

Cassiterite, Mecklenburg, North Carolina.

Col. Sci. Soc., Proc., v. 8 (1906): 167-168.

Description and analysis of this mineral.

727. HEAP, DANIEL, PORTER.

Improvement of Black river, North Carolina.

(In Chief of Eng. Rept., 1896, pt. 2. Appendix K 12, pp.
1125-1127.)

728. ——— Improvement of Cape Fear river above Wilmington, North Carolina.

(In Chief of Eng. Rept., 1896, pt. 2. Appendix K 13, pp.
1128-1131.)

729. ——— Improvement of Cape Fear river, North Carolina, at and below Wilmington.

(In Chief of Eng. Rept., 1896, pt. 2. Appendix K 14, pp.
1131-1140.)

730. ——— Improvement of Contentnea creek, North Carolina.

(In Chief of Eng. Rept., 1896, pt. 2. Appendix K 4, pp.
1103-1106.)

731. ——— Improvement of harbor at Beaufort, North Carolina.

(In Chief of Eng. Rept., 1896, pt. 2. Appendix K 8, pp.
1115-1117.)

732. ——— Improvement of inland waterway between Beaufort harbor and New river, North Carolina.

(In Chief of Eng. Rept., 1896, pt. 2. Appendix K 9, pp.
1117-1119.)

733. ——— Improvement of inland waterway between Newbern and Beaufort, North Carolina, via Clubfoot, Harlowe, and Newport rivers.

(In Chief of Eng. Rept., 1896, pt. 2. Appendix K 7, pp.
1113-1116.)

734. — Improvement of Lockwood's Folly river, North Carolina.
(*In Chief of Eng. Rept., 1896, pt. 2. Appendix K 15, pp. 1140-1143.*)
735. — Improvement of Neuse river, North Carolina.
(*In Chief of Eng. Rept., 1896, pt. 2. Appendix K 6, pp. 1109-1112.*)
736. — Improvement of New river, North Carolina.
(*In Chief of Eng. Rept., 1896, pt. 2. Appendix K 10, pp. 1120-1122.*)
737. — Improvement of Northeast (Cape Fear) river, North Carolina.
(*In Chief of Eng. Rept., 1896, pt. 2. Appendix K 11, pp. 1122-1125.*)
738. — Improvement of Ocracoke inlet, North Carolina.
(*In Chief of Eng. Rept., 1896, pt. 2. Appendix K 1, pp. 1097-1099.*)
739. — Improvement of Pamlico and Tar rivers, North Carolina.
(*In Chief of Eng. Rept., 1896, pt. 2. Appendix K 3, pp. 1101-1103.*)
740. — Improvement of Trent river, North Carolina.
(*In Chief of Eng. Rept., 1896, pt. 2. Appendix K 5, pp. 1106-1109.*)
741. — Preliminary examination and survey for a jetty near Bogue inlet, North Carolina, in order to remove sand bars.
(*In Chief of Eng. Rept., 1897, pt. 2. Appendix L 16, pp. 1418-1423.*)
- — U. S. 54th Cong., 2d Sess., 1897. House Doc. No. 316. 6 pp. Map.
742. — Survey of Cape Fear river above Fayetteville, North Carolina.
(*In Chief of Eng. Rept., 1896, pt. 2. Appendix L 17, pp. 1144-1147.*)
- — U. S. 54th Cong., 1st Sess., 1896. House Doc. No. 65. 5 pp. Map.
743. — Survey of Neuse river, North Carolina, at and below Newbern, for an 8-ft. depth at dead low water.
(*In Chief of Eng. Rept., 1897, pt. 2. Appendix L 19, pp. 1427-1429.*)
- — U. S. 54th Cong., 2d Sess., 1897. House Doc. No. 317. 3 pp.
744. — Survey of Ocracoke inlet, North Carolina, to obtain a channel 14 ft. in depth.
(*In Chief of Eng. Rept., 1897, pt. 2. Appendix L 17, pp. 1423-1424.*)

745. — Survey of Pamlico river, North Carolina, to obtain a depth of ten feet up to Washington, and to make necessary improvements in the harbor at Washington.
(*In* Chief of Eng. Rept., 1897, pt. 2. Appendix L 18, pp. 1425-1427.)
- — U. S. 55th Cong., 1st Sess., 1897. House Doc. No. 5. 2 pp.
746. — Survey of Town creek, Brunswick county, North Carolina.
(*In* Chief of Eng. Rept., 1897, pt. 2. Appendix L 21, pp. 1434-1437.)
- — U. S. 54th Cong., 2d Sess., 1897. House Doc. No. 214. 5 pp.
- HEARN, W. EDWARD.
Soil survey of Alamance county, North Carolina.
See Coffey and Hearn, No. 326.
747. — Soil survey of Chowan county, North Carolina.
(*In* U. S. Dept. Agric., Field Operations, Bureau of Soils, 8th Rept., 1906. Wash., 1908. pp. 223-224. Map.)
Detailed description of soils of area with analyses, and notes on topography and climate.
- Soil survey of the Cary area of North Carolina.
See Coffey and Hearn, No. 326.
748. — Soil survey of Transylvania county, North Carolina.
(*In* U. S. Dept. Agric., Field Operations, Bureau of Soils, 8th Rept., 1906. Wash., 1908. pp. 281-301. Map.)
Detailed description of the soils of area with analyses, and notes on topography and climate.
749. HEIGHWAY, A. E.
Monazite in North Carolina.
Mineral Industry, v. 8 (1900): 430.
Notes on monazite production during 1899.
750. — Monazite production in North Carolina.
Eng. & Min. Jour., v. 66 (1898): 543.
751. — North Carolina talc and soapstone.
Mineral Industry, v. 6 (1897): 629-630.
Describes talc deposits, mining operations and production.
752. HEILPRIN, ANGELO.
On the relative age and classification of the post-pliocene tertiary deposits of the Atlantic slope
Acad. Nat. Sci. Phila., Proc., [v. 34] (1882): 150-186.
- — (*In his* Contributions to the tertiary geology and paleontology of the United States. Phila., pub. by the author, 1884. pp. 41-68.)
Abstract: *Am. Nat.*, v. 17 (1883): 308-309.
Discusses subject in detail, giving a list of the post-pliocene tertiary lamellibranchiata of North and South Carolina.

753. — A revision of the tertiary species of *arca* of the eastern and southern United States.
 Acad. Nat. Sci., Phila., [v. 33] (1881): 448-453.
 A few specimens from North Carolina are considered.
754. — The tertiary geology of the eastern and southern United States.
 Acad. Nat. Sci. Phila., Jour., Ser. II, v. 9 (1884): 115-154.
 — — — (In his Contributions to the tertiary geology and paleontology of the United States. Phila., pub. by the author, 1884. pp. 17-18.)
 A discussion of the distribution, relative age and correlation of tertiary of region as a whole, and of the states separately. Many general references to North Carolina formation. Description of North Carolina tertiary, pp. 131-132.
755. HEINRICH, OSWALD J.
 The mesozoic formation in Virginia.
 Am. Inst. Min. Eng., Trans., v. 6 (1878): 227-274.
 — — — The Virginias, v. 1 (1878): 120-126; 142-145; 155; 176-177; 190-192.
 Describes North Carolina extension of this formation, the "Dan River coal-basin."
756. — Report on the coal lands of Fooshee's and Street's plantations on Deep river, North Carolina.
 (In Brief Statement of the North Carolina Gas-coal Company. Phila., 1856. 22 cm. pp. 11-15.)
757. HENDERSON, CHARLES, HANFORD.
 Mica and the mica mines.
 Pop. Sci. Month., v. 41 (1892): 652-665.
 Abstract: Eng. & Min. Jour., v. 55 (1893): 4.
 Abstract: Zts. f. prakt. Geol., 1893, p. 252.
 Popular account of mica mining using mines in western North Carolina as examples for description.
758. HENDERSON, JAMES M.
 The Cabarrus mine.
 Min. Mag., Ser. I, v. 3 (1854): 205-206.
 Brief notes on development and operations of this mine.
759. HENRICH, CARL.
 The Ducktown ore-deposits and the treatment of the Ducktown copper-ores.
 Am. Inst. Min. Eng., Trans., v. 25 (1895): 173-245.
 Of value for comparative study of Tennessee and North Carolina copper ores.
760. HENRY, ALFRED J.
 Climate of the southern Appalachians.
 (Appendix D to Roosevelt, T. Message from the President transmitting a report of the Secretary of Agriculture in relation to the forests, rivers and mountains of the

southern Appalachian region. U. S. 57th Cong., 1st Sess.
Sen. Doc. No. 84. Wash., 1902. pp. 143-153.)

Brief account of the climate of the Appalachian region of western North Carolina, with tables of normal monthly mean temperatures from observations taken at the hydrographic stations, through a series of years.

761. ——— Maximum precipitation of southwestern North Carolina particularly on the southern and eastern slopes of the Blue Ridge.

Amer. Meteor. Jour., v. 11 (1894): 6-10.

Gives general topographical features of Cherokee, Clay, Macon, Jackson, Polk, Transylvania and Henderson counties, with a record of rainfall observations made at various points in the area.

762. HERRICK, C. L., CLARKE, E. S. and DEMING, J. L.

{Olivine norite near Marshall, North Carolina.}

Am. Geol., v. 1 (1888): 340-342.

Gives petrography of olivine norite and adjacent rocks near Marshall.

763. HESS, FRANK L.

The Carolina tin deposits.

Eng. Mag., v. 32 (1906): 10-20.

- 763a. ——— Mining Reporter, v. 54 (1906): 366-368.

Describes discovery and development of tin ore in North Carolina.

764. ——— Tin {in North Carolina.}

(In U. S. Geol. Survey, Min. Res., 1906. Wash., 1907. p. 544.)

- 764a. ——— (In U. S. Geol. Survey, Min. Res., 1907, pt. 1. Wash., 1908. p. 726.)

Notes on tin mining at King's Mountain.

765. ——— {Titanium, uranium and tantalum from North Carolina in 1906.}

(In U. S. Geol. Survey, Min. Res., 1906. Wash., 1907. pp. 530; 532; 534.)

Describes occurrence of nickeliferous iron near Lenoir, uranium in Franklin and Mitchell counties and tantalum in Mitchell county.

766. HIDDEN, WILLIAM E{ARL.}

Addendum to the minerals and mineral localities of North Carolina.

Elis. Mit. Sci. Soc., Jour., v. 6 (1889): 45-79.

A résumé of the mineral discoveries in North Carolina, made by the writer previous to this date, with descriptions of species and localities discovered while on a search for platinum in 1879. Crystallographic and chemical descriptions are given with analyses by many different analysts.

767. ——— {Auerlite from North Carolina.}

N. Y. Acad. Sci., Trans., v. 8 (1889): 8-9.

Describes occurrence of auerlite in Henderson county.

768. — *and* MACKINTOSH, J_[AMES] B_[UCKTON].
 Auerlith, ein neues Thoriummineral.
 Zts. f. Kryst. u. Min., v. 15 (1889): 295-297.
 Abstract: Soc. Min. de France, Bull., v. 13 (1890): 40.
 Abstract by C. A. Tenne: Neues Jahr. f. Min., 1891, Bd. 2. Ref.
 p. 240.
 Description and analysis of this mineral found in Henderson county.
769. — *and* WASHINGTON, H_[ENRY] S_[HERMAN].
 Contributions to mineralogy.
 Am. Jour. Sci., Ser. III, v. 33 (1887): 501-507.
 Notice: Am. Nat., v. 21 (1887): 1025.
 Abstract by E. S. Dana: Zts. f. Kryst. u. Min., v. 14 (1888): 298-302.
 Abstract: Soc. Min. de France, Bull., v. 12 (1889): 484-485
 Abstract by C. A. Tenne: Neues Jahr. f. Min., 1890, Bd. 2.
 Ref. pp. 47-49.
 Gives crystallographic measurements of crystals obtained at the Emerald and Hiddenite mine, Alexander county. The following minerals are described: rutile, apatite, beryl, tourmaline, quartz, topaz and corundum twins.
770. HIDDEN, W_[ILLIAM] E_[ARL].
 Corundum twins.
 Am. Jour. Sci., Ser. IV, v. 13 (1902): 474.
 Abstract by A. S. Eakle: Zts. f. Kryst. u. Min., v. 38 (1904): 681.
 Describes crystals of corundum, gray and ruby red, twinned parallel, which have been found sparingly in the "In situ" mine, Caler Fork of Cowee creek, Macon county
771. — The discovery of emeralds in North Carolina.
 N. Y. Acad. Sci., Trans., v. 1 (1882): 101-105.
 Notice: Am. Nat., v. 16 (1882): 425.
 — — Privately printed, 1881. 4 pp.
 — — (In U. S. Geol. Survey, Min. Res., 1883. pp. 500-503.)
 History of the emerald discoveries in Alexander county, with descriptions of crystals and mining operations.
772. — Emeralds from Alexander county, North Carolina.
 Am. Jour. Sci., Ser. III, v. 22 (1881): 489-490.
 Abstract by E. S. Dana: Zts. f. Kryst. u. Min., v. 6 (1882): 517-518.
 Describes discovery and occurrence of emeralds 16 miles northwest of Statesville.
773. — Fluid-bearing quartz crystals.
 N. Y. Acad. Sci., Trans., v. 1 (1882): 131-136.
 Notice: Am. Jour. Sci., Ser. III, v. 25 (1883): 393-394.
 Abstract by E. S. Dana: Smithsonian Inst., Bd. of Regents.
 Rept. 1883, p. 671.
 Describes quartz crystals with fluid inclusions found in Alexander county.
774. — [Gold and amber from North Carolina.]
 N. Y. Acad. Sci., v. 2 (1883): 79; 86.
 Describes gold nuggets found in Burke county, and states that amber has been found in the marl beds.

775. — Mineral discoveries in Alexander county, North Carolina.

Am. Jour. Sci., Ser. III, v. 221 (1881): 159-160.

Abstract by E. S. Dana: Zts. f. Kryst. u. Min., v. 5 (1881): 514.

Mentions occurrence of following minerals in Alexander county: beryl crystals, spodumene (hiddenite), rutile crystals, quartz, monazite, orthoclase, black tourmaline, graphite, sphene and magnetite.

776. — Mineral localities in North Carolina.

Am. Jour. Sci., Ser. III, v. 22 (1881): 21-25.

Review by C. A. Tenne: Neues Jahr. f. Min., 1882, Bd. 2. Ref. p. 361.

Abstract by Henry Watts: Chem. Soc. (London) Jour., v. 40 (1881): 1109-1110.

Abstract: Jahresber. d. Chem., 1881, pp. 1357; 1362; 1375-1376; 1396; 1407.

Abstract by E. S. Dana: Zts. f. Kryst. u. Min., v. 6 (1882): 517-518.

Descriptions of mineral localities and specimens; monazite, quartz and beryl in Alexander county; monazite in Burke, Polk, McDowell, Rutherford, Mitchell and Yancey counties; uraninite, gummito, uranotil and uranochre in Mitchell county; æschynite (?) in Yancey county, and samarskite in Mitchell county.

777. — Mineral localities in North Carolina.

Am. Jour. Sci., Ser. III, v. 24 (1882): 372-374.

Review by C. A. Tenne: Neues Jahr. f. Min., 1883, Bd. 2, pp. 148-149.

Abstract by H. Baker: Chem. Soc. (London) Jour., v. 44 (1883): 163.

Abstract: Jahresber. d. Chem., 1882, pp. 1546; 1561; 1573; 1574.

Abstract by E. S. Dana: Zts. f. Kryst. u. Min., v. 9 (1884): 79-90.

Descriptions and analyses of minerals as follows: beryl from Alexander county; æschynite (?) from the Ray mica mine, Yancey county, has proved to be columbite; uraninite from Mitchell county; "euxenite" from the Wiseman mica mine is thought to be altered samarskite. (Analyses by J. Lawrence Smith and J. W. Mallett); fergusonite from Burke county; allanite from Alexander and Mitchell counties, with analysis by J. W. Mallett.

778. — Mineralogical notes.

Am. Jour. Sci., Ser. III, v. 41 (1891): 440.

Notice: Am. Nat., v. 25 (1891): 1008.

Describes fergusonite crystals from Mitchell and Rutherford counties.

779. — Mineralogical notes.

Am. Jour. Sci., Ser. III, v. 46 (1893): 254-257.

Notice: Am. Nat., v. 28 (1894): 518.

Abstract by B. H. Brough: Chem. Soc. (London) Jour., v. 66, pt. 2 (1894): 54.

Abstract by A. Osann: Zts. f. Kryst. u. Min., v. 25 (1895): 108-109.

Abstract: Soc. Min. de France, Bull., v. 18 (1895): 152.

Crystallographic description of transparent xenotime from Alexander county, and of green xenotime from Burke county.

780. — *and* M_[ACKINTOSH], J_[AMES] B_[UCKTON].

Mineralogical notes. Auerlite.

Am. Jour. Sci., Ser. III, v. 41 (1891): 438.

Notice: Am. Nat., v. 25 (1891): 1008.

Abstract by F. Grünling: Zts. f. Kryst. u. Min., v. 22 (1893): 419-420; 421.

Notes on lemon yellow auerlite found in Henderson county.

781. HIDDEN, W_[ILLIAM] E_[ARL].

[Minerals from North Carolina.]

(In Mineralogical notes. Am. Jour. Sci., Ser. III, v. 29 (1885): 250-251.)

Abstract by B. H. Brough: Chem. Soc. (London) Jour., v. 48 (1885): 878.

Abstract: Jahresber. d. Chem., 1886, pt. 2, pp. 2240; 2257; 2281.

Abstract by C. A. Tenne: Neues Jahr. f. Min., 1887, Bd. 1. Ref. pp. 25-27.

Describes rutile crystals from Alexander county, and a new occurrence of emeralds and hiddenite.

782. — A new American locality of fergusonite.

Am. Jour. Sci., Ser. III, v. 20 (1880): 150.

Abstract: Jahresber. d. Chem., 1880, p. 1479.

States this mineral has been found at Brindletown, Burke county, and gives analysis by J. Lawrence Smith.

783. — A new meteoric iron from North Carolina.

Am. Jour. Sci., Ser. III, v. 20 (1880): 324-326.

Review by C. Klein: Neues Jahr. f. Min., 1881, Bd. 2. Ref. p. 180.

Abstract by H_[ENRY] W_[ATTS]: Chem. Soc. (London) Jour., v. 40 (1881): 1017.

Abstract: Jahresber. d. Chem., 1880, p. 1542.

Description of meteoric iron found near Lick creek, Davidson county, and analyses by J. Lawrence Smith and J. B. Mackintosh.

784. — North Carolina mineral localities (with crystallographic notes by A. Des Cloizeaux).

Am. Jour. Sci., Ser. III, v. 32 (1886): 204-208.

Notice: Am. Nat., v. 21 (1887): 75.

Abstract by B. H. Brough: Chem. Soc. (London) Jour., v. 52 (1887): 118-119.

Abstract: Jahresber. d. Chem., 1886, pt. 2, pp. 2239; 2258; 2263.

Abstract: Soc. Min. de France, Bull., v. 9 (1886): 313-314.

Abstract by C. A. Tenne: Neues Jahr. f. Min., 1890, Bd. 1. Ref. pp. 219-220.

Description and measurements of crystals from Alexander county as follows: spodumene, black tourmaline, xenotime, quartz crystals with basal plane, and twiu crystals of monazite.

785. — Notable discovery of precious stones in Alexander county, North Carolina.

N. Y. Acad. Sci., Trans., v. 6 (1886): 2-4.

- — Am. Jour. Sci., Ser. III, v. 32 (1886): 483-484.

Account of "important discovery" of emeralds and hiddenite crystals at the Emerald and Hiddenite mine, Alexander county.

786. — Notes on zircon.

N. Y. Acad. Sci., Trans., v. 7 (1887): 6.

Announces discovery of new twinning law in zircon crystals from Green river, Henderson county.

787. — Occurrence of sperrylite in North Carolina.

Am. Jour. Sci., Ser. IV, v. 6 (1898): 381-383.

Notice by W. O. Crosby: Am. Chem. Research, Rev., v. 7 (1901): 88.

Abstract by A. S. Eakle: Zts. f. Kryst. u. Min., v. 32 (1900): 599.

Abstract by K. Busz: Neues Jahr. f. Min., 1899, Bd. 2. Min., p. 11.

Describes discovery and occurrence of sperrylite in Macon county, and gives micro-chemical and crystallographic examinations by S. L. Penfield.

788. — Octahedrite from Burke county, North Carolina.

Am. Jour. Sci., Ser. III, v. 21 (1881): 160-161.

Review by C. A. Tenne: Neues Jahr. f. Min., 1883, Bd. 1. Ref. p. 14.

Abstract by E. S. Dana: Zts. f. Kryst. u. Min., v. 5 (1881): 514. Crystallographic description of octahedrite occurring at Brindletown.

- On a new mode of occurrence of ruby in North Carolina. With crystallographic notes by J. H. Pratt.

See Judd and Hidden, No. 938.

789. — and MACKINTOSH, J_[AMES] B_[UCKTON].

On a new thorium mineral, auerlite.

Am. Jour. Sci., Ser. III, v. 36 (1888): 461-463.

Abstract by B. H. B_[rough]: Chem. Soc. (London) Jour., v. 56 (1889): 221-222.

Abstract by E. S. Dana: Smithsonian Inst., Bd. of Regents. Rept. 1888, p. 464.

Abstract: Jahresber. d. Chem., 1888, pt. 1, pp. 637-638.

Abstract: Soc. Min. de France, Bull., v. 12 (1889): 515-516.

Abstract by C. A. Tenne: Neues Jahr. f. Min., 1891, Bd. 2. Ref. p. 240.

Description and analyses of auerlite from the Freeman mine on Green river, and from the Price land, Henderson county. Describes mode of occurrence and associated minerals.

790. HIDDEN, WILLIAM E_[ARL].

On edisonite, a fourth form of titanite acid.

Am. Jour. Sci., Ser. III, v. 36 (1888): 272-274.

Abstract by E. S. Dana: Smithsonian Inst., Bd. of Regents. Rept. 1888, p. 468.

Abstract: *Jahresber. d. Chem.*, 1888, pt. 1, p. 634.

Abstract: *Soc. Min. de France, Bull.*, v. 12 (1889): 502.

Abstract by C. A. Tenne: *Neues Jahr. f. Min.*, 1891, Bd. 2.

Ref. p. 44.

Description and analysis of the original specimen of edisonite discovered by the writer at the Whistnant gold mine, Polk county. In addition to his own crystallographic measurements, gives those of Prof. Des Cloizeaux.

791. — and PRATT, JOSEPH HYDE.

On rhodolite, a new variety of garnet.

Am. Jour. Sci., Ser. IV, v. 5 (1898): 294-296.

Notice: *Am. Nat.*, v. 32 (1898): 613.

Review by W. O. Crosby: *Am. Chem. Research, Rev.*, v. 4 (1898): 108.

Abstract by L_{eonard}, J. S_{pencer}: *Chem. Soc., (London) Jour.*, v. 74, pt. 2 (1898): 605-606.

Abstract by A. S. Eakle: *Zts. f. Kryst. u. Min.*, v. 32 (1900): 592-593.

Abstract by K. Busz: *Neues Jahr. f. Min.*, 1900, Bd. 1. *Min.*, p. 187.

Description and analysis of a new variety of garnet named rhodolite, found at "Mason's Branch," near Franklin, Macon county. Describes its mode of occurrence and associated minerals.

792. — On the associated minerals of rhodolite.

Am. Jour. Sci., Ser. IV, v. 6 (1898): 463-468.

Notice by W. O. Crosby: *Am. Chem. Research, Rev.*, v. 5 (1899): 38.

Abstract by L_{eonard}, J. S_{pencer}: *Chem. Soc. (London) Jour.*, v. 76, pt. 2 (1899): 300-301.

Abstract by A. S. Eakle: *Zts. f. Kryst. u. Min.*, v. 32 (1900): 599-600.

Abstract by K. Busz: *Neues Jahr. f. Min.*, 1900, Bd. 1. *Min.*, pp. 187-188.

Descriptions of the following minerals associated with rhodolite found in Macon county: Quartz and quartz pseudomorphs, corundum, spinel group, (gahnite, chromite), bronzite, iolite, staurolite, monazite and zircon, cyrtolite, gold and sperrylite.

793. HIDDEN, W_{ILLIAM}, E_{ARL}, and MACKINTOSH, J_{AMES}, B_{UCKTON}.

On the occurrence of polycrase or of an allied species in both North and South Carolina.

Am. Jour. Sci., Ser. III, v. 39 (1890): 302-306.

Notices: *Am. Nat.*, v. 24 (1890): 1191-1192; v. 25 (1891): 1007-1008.

Abstract by B. H. B_{rough}: *Chem. Soc. (London) Jour.*, v. 58 (1890): 854; v. 60, pt. 2 (1891): 1329.

Abstract: *Soc. Min. de France, Bull.*, v. 13 (1890): 393; v. 17 (1894): 65.

Abstract by F. Grünling: *Zts. f. Kryst. u. Min.*, v. 22 (1893): 418-419.

Abstract by F. Rinne: Neues Jahr. f. Min., 1893, Bd. 2. Min., pp. 32-33; 1894, Bd. 1, Min., p. 25.

Description and analysis of polycrase crystals from the Davis land, in Henderson county. A corrected analysis which positively identifies this mineral as polycrase, may be found, Am. Jour. Sci., Ser. III, v. 41 (1891): 424.

794. HIDDEN, WILLIAM EARL.

Report and description of a new ruby district discovered and controlled by the American Prospecting and Mining Company.

(In The American Prospecting and Mining Company. Reports upon the property. New York, 1899. pp. 1-16.)

Detailed description of occurrence of ruby in Macon county, the mining developments and progress.

795. — Stone implement from North Carolina.

N. Y. Acad. Sci., Trans., v. 1 (1882): 85.

Describes implement found in Haywood county.

796. — and PRATT, JOSEPH HYDE.

Twinned crystals of zircon from North Carolina.

Am. Jour. Sci., Ser. IV, v. 6 (1898): 323-326.

Abstract by A. S. Eakle: Zts. f. Kryst. u. Min., v. 32 (1900): 598-599.

Abstract by K. Busz: Neues Jahr. f. Min., 1899, Bd. 2. Min., p. 195.

Crystallographic description of twinned zircon from the Meredith Freeman mine, Henderson county.

797. HIDDEN, WILLIAM EARL.

Xenotime from Burke county, N. C.

Am. Jour. Sci., Ser. III, v. 21 (1881): 244.

Review by C. A. Tenne: Neues Jahr. f. Min., 1883, Bd. 1. Ref., p. 14.

Abstract by B. H. Brough: Chem. Soc. (London) Jour., v. 44 (1883): 435.

Abstract by E. S. Dana: Zts. f. Kryst. u. Min., v. 6 (1882): 110.

Describes xenotime crystals from Brindletown.

798. — Xenotime from North Carolina.

(In Mineralogical notes. Am. Jour. Sci., Ser. III, v. 36 (1888): 381-383.)

Abstract by B. H. Brough: Chem. Soc. (London) Jour., v. 56 (1889): 355-356.

Abstract by E. S. Dana: Zts. f. Kryst. u. Min., v. 17 (1889): 413.

Abstract: Soc. Min. de France, Bull., v. 12 (1889): 505.

Abstract by C. A. Tenne: Neues Jahr. f. Min., 1891, Bd. 2. Ref. p. 50.

Crystallographic descriptions of xenotime from Alexander and McDowell counties, and of xenotime-zircon from Henderson and Mitchell counties.

799. — Zircon from North Carolina.

Am. Jour. Sci., Ser. III, v. 36 (1888): 73.

Mentions zircon obtained from the Green River mines Henderson county.

800. — Zoisite from the Flat Rock mine, Mitchell county, North Carolina.

Am. Jour. Sci., Ser. III, v. 46 (1893): 154.

Abstract by B. H. Brough₁: Chem. Soc. (London) Jour., v. 66, pt. 2 (1894): 20.

Abstract by A. Osann: Zts. f. Kryst. u. Min., v. 25 (1895): 106-107.

Abstract by F. Rinne: Neues Jahr. f. Min., 1895, Bd. 2. Min., p. 15.

Description of this mineral, and analyses by L. G. Eakins.

801. HILGARD, J₁ULIUS₁ E₁RASMUS₁.Coast survey operations in North Carolina₁

(In U. S. Coast & Geod. Survey, Rept. 1882. Wash., 1883. pp. 36-38.)

801a. — — (In U. S. Coast & Geod. Survey, Rept. 1883. Wash., 1884. pp. 40-41.)

801b. — — (In U. S. Coast & Geod. Survey, Rept. 1884. Wash., 1885. pp. 47-48.)

Reports of progress.

802. — — Coast survey operations in North Carolina in 1866₁

(In U. S. Coast Survey, Rept. 1866. Wash., 1866. pp. 18-19.)

Account of progress of surveys of the coast.

— On the general distribution of terrestrial magnetism in the United States. . .

See Bache and Hilgard, No. 52.

— On the general distribution of terrestrial magnetism in the United States. . .

See Bache and Hilgard, No. 52.

803. HILL, ROBERT T₁THOMAS₁.Clay materials of North Carolina₁.

(In U. S. Geol. Survey, Min. Res., 1891. Wash., 1893. pp. 505-506.)

— — (In U. S. Geol. Survey, Min. Res., 1892. Wash., 1893. p. 734.)

— — (In U. S. Geol. Survey, Min. Res., 1893. Wash., 1894. pp. 616-617.)

Notes on clay and kaolin deposits and mining in Mitchell, Yancey, Macon and Jackson counties, mentioning mines at Sylva, Dillsboro and Webster in Jackson county.

804. HILLEBRAND, WILLIAM FRANCIS.
 [Analyses of rocks from North Carolina.]
 (In U. S. Geol. Survey, Bull. 168. Wash., 1900. pp. 52-53.)
 ——— (In U. S. Geol. Survey, Bull. 228. Wash., 1904. pp. 62-63.)
 Analyses of quartz-porphry from Watauga county; garnetiferous diabase and epidote-chlorite-schist from Mitchell county and spherulitic rhyolite from Montgomery county.
805. ——— [Tests and analyses of uraninite from North Carolina.]
 (In U. S. Geol. Survey, Bull. 78. Wash., 1891. pp. 51; 57; 65; 66-67.)
 Description and analysis of uraninite from the Flat Rock mine, Mitchell county.
806. HILLYARD, M. B.
 Description of North Carolina.
 (In his The new South. Baltimore, Manuf. Record Co., 1887. 24 cm. pp. 115-142.)
 Descriptions, topographical, agricultural and geological, of the state, with account of the mineral resources, quoted largely from Prof. Kerr's reports.
807. HINMAN, FREDERICK A.
 Improvement of Beaufort Harbor, North Carolina.
 (In Chief of Eng. Rept., 1884, pt. 2. Appendix L 13. pp. 1039-1040.)
808. ——— Improvement of Cape Fear river from Wilmington to Fayetteville, North Carolina.
 (In Chief of Eng. Rept., 1884, pt. 2. Appendix L 17, pp. 1042-1044.)
809. ——— Improvement of Currituck sound, Coanjok bay and North river bar, North Carolina.
 (In Chief of Eng. Rept., 1884, pt. 2. Appendix L 8, pp. 1034-1035.)
 ——— (In Chief of Eng. Rept., 1885, pt. 2. Appendix L 9, pp. 1039-1040.)
 ——— (In Chief of Eng. Rept., 1887, pt. 2. Appendix L 6, pp. 986-987.)
 Reports of progress.
810. ——— Improvement of Edenton bay, North Carolina.
 (In Chief of Eng. Rept., 1885, pt. 2. Appendix L 8, pp. 1038-1039.)
 ——— (In Chief of Eng. Rept., 1886, pt. 2. Appendix K 8, pp. 963-964.)
811. ——— Improvement of Lillington river, North Carolina.
 (In Chief of Eng. Rept., 1884, pt. 2. Appendix L 18, p. 1044.)
812. ——— Improvement of Meherrin river, North Carolina.
 (In Chief of Eng. Report., 1884, pt. 2. Appendix L 7, p. 1034.)
 ——— (In Chief of Eng. Rept., 1885, pt. 2. Appendix L 10, p. 1041.)

813. — Improvement of Neuse river, North Carolina.
(*In* Chief of Eng. Rept., 1884, pt. 2. Appendix L 12, pp. 1037-1039.)
814. — Improvement of North Landing river, Virginia and North Carolina.
(*In* Chief of Eng. Rept., 1884, pt. 2. Appendix L 6, pp. 1032-1033.)
— — — (*In* Chief of Eng. Rept., 1885, pt. 2. Appendix L 7, pp. 1035-1037.)
Reports of progress.
815. — Improvement of Pamlico and Tar rivers, North Carolina.
(*In* Chief of Eng. Rept., 1884, pt. 2. Appendix L 11, pp. 1036-1037.)
— — — (*In* Chief of Eng. Rept., 1885, pt. 2. Appendix L 11, pp. 1041-1042.)
— — — (*In* Chief of Eng. Rept., 1886, pt. 2. Appendix K 11, pp. 966-967.)
Reports of progress.
816. — Improvement of Scuppernong river, North Carolina.
(*In* Chief of Eng. Rept., 1886, pt. 2. Appendix K 13, pp. 969-970.)
817. — Improvement of Trent river, North Carolina.
(*In* Chief of Eng. Rept., 1884, pt. 2. Appendix L 15, p. 1041.)
818. — Improvement of Yadkin river, North Carolina.
(*In* Chief of Eng. Rept., 1884, pt. 2. Appendix L 19, pp. 1045-1046.)
— — — (*In* Chief of Eng. Rept., 1885, pt. 2. Appendix L 12, pp. 1042-1044.)
— — — (*In* Chief of Eng. Rept., 1886, pt. 2. Appendix K 12, pp. 967-969.)
Reports of progress.
819. — Preliminary examination of Alligator river, North Carolina.
(*In* Chief of Eng. Rept., 1887, pt. 2. Appendix L 12, pp. 991-995.)
— — — (*In* U. S. 50th Cong., 1st Sess., 1888. House Ex. Doc. No. 58, pp. 74-80.)
820. — Preliminary examination of Cashie river, from its mouth to the town of Windsor, in Bertie county, North Carolina.
(*In* Chief of Eng. Rept., 1885, pt. 2. Appendix L 18, pp. 1053-1058.)
— — — U. S. 48th Cong., 2d Sess., 1885. House Doc. No. 263. 8 pp.
821. — Preliminary examination of Green river, North Carolina.
(*In* Chief of Eng. Rept., 1885, pt. 2. Appendix L 16, pp. 1046-1049.)
— — — (*In* U. S. 48th Cong., 2d Sess., 1885. House Doc. No. 71, pp. 76-79.)

822. — Preliminary examination of Pasquotank river, above mouth of canal, North Carolina.
(*In* Chief of Eng. Rept., 1885, pt. 2. Appendix L 17, pp. 1049-1052.)
- — U. S. 48th Cong., 2d Sess., 1885. House Doc. No. 98. 5 pp.
823. — Preliminary examination of Perquimans river above Hertford, North Carolina.
(*In* Chief of Eng. Rept., 1885, pt. 2. Appendix L 15, pp. 1045-1046.)
- — (*In* U. S. 48th Cong., 2d Sess., 1885. House Doc. No. 71, pp. 75-76.)
824. HITZ, JOHN.
To the President and Directors of the Washington Mining company. n. p. May, 1852. 8 pp. 22 cm.
Report of general conditions of the Washington silver mine, Davidson county.
825. HOBBS, WILLIAM HERBERT.
The correlation of fracture systems and the evidences of planetary dislocations within the earth's crust.
Wis. Acad. Sci., Arts & Letters, Trans., v. 15, pt. 1 (1905): 15-29.
Discusses fracture systems on the earth's surface, and includes tabulated measurements made by Mr. F. B. Laney in the Newark area of North Carolina.
826. HODGE, JAMES T.
The boulders and deposit gold mines of North Carolina.
Assoc. Amer. Geol. & Nats., Repts. of 1st, 2d & 3d meet. 1841, pp. 34-35.
- — Am. Jour. Sci., Ser. I, v. 41 (1841): 182-183.
Discusses Piedmont boulders, placer gold deposits, gold and copper ores in Davidson and Guilford counties, and mode of occurrence of minerals at the King mine, Davidson county.
827. — Observations on the secondary and tertiary formations of the southern Atlantic States. With appendix by T. A. Conrad.
Assoc. Amer. Geol. & Nat., Repts. of 1st, 2d & 3d meet. 1841, pp. 94-111.
- — Am. Jour. Sci., Ser. I, v. 41 (1841): 332-348.
Extracts: Annales des Sci. Géol., 1842, pp. 510-513.
Describes secondary and tertiary formations in eastern North Carolina, and fossil shells found at Murfreesboro: on the Roanoke, New and Trent rivers; the "Natural Well" in Duplin county; on Cape Fear river and at Wilmington. Gives a list of tertiary fossils found at Wilmington and "Natural Well." Appendix describes and name shells.
828. — Report on the Vanderburg mine. New York, G. F. Nesbitt & Co., 1853. 15 pp. 22 cm.
Describes geological structure and vein formation of this mine in Cabarrus county. Contains remarks on the gold diggings by C. Ludwig Richter.

829. HOLMES, JOSEPH, AUSTIN.

Character and distribution of road materials.

Elis. Mit. Sci. Soc., Jour., v. 9 (1892): 66-81.

Discusses the essentials of a first-class road metal, the rocks suitable for this purpose, and gives a fairly comprehensive account of the distribution of road material in North Carolina.

830. — The conglomerate and pebble beds of the triassic and potomac formations in North Carolina.

Elis. Mit. Sci. Soc., Jour., v. 6 (1889): 148.

Discusses the conglomerates near Morrisville, and on the Neuse river in Granville county.

831. — Corundum deposits of the southern Appalachian region.

(In U. S. Geol. Survey, 17th Ann. Rept., pt. 3. (Non-metallic products.) Wash., 1896. pp. 935-943.)

Describes occurrence and distribution of corundum in western North Carolina, the mines, mining methods, production and value.

832. — The cretaceous and tertiary section between Cape Fear and Fayetteville, N. C.

Science, n. s., v. 11 (1900): 143.

Remarks on importance of Hatteras uplift.

833. — The deep well at Wilmington, North Carolina.

Elis. Mit. Sci. Soc., Jour., v. 16 (1899): 67-70.

Abstract: Science, n. s., v. 11 (1900): 128-130.

Description of this well, giving many cretaceous fossils and their horizons.

834. — Economic geology of North Carolina.

Southern States, v. 1 (1893): 153-161.

Describes economic mineral deposits of the state, and the industries arising therefrom.

835. — First biennial report of the State Geologist.

N. C. Geol. Survey, Raleigh, Josephus Daniels, 1893. 23 pp. 24 cm.

Contains account of work done by the Geological Survey, during 1891-1892, and an investigation of the iron ores by H. B. C. Nitze.

— — Report for 1893-1894. N. C. Geol. Survey, Raleigh, E. M. Uzzell & Co., 1894. 15 pp. 24 cm.

— — Report for 1895-1896. N. C. Geol. Survey, Raleigh, E. M. Uzzell & Co., 1896. 17 pp. 24 cm.

— — Report for 1897-1898. N. C. Geol. Survey, Raleigh, E. M. Uzzell & Co., 1898. 28 pp. 24 cm.

— — Report for 1899-1900. N. C. Geol. Survey, Raleigh, E. M. Uzzell & Co., 1900. 20 pp. 24 cm.

— — Report for 1901-1902. N. C. Geol. Survey, Raleigh, E. M. Uzzell & Co., 1902. 15 pp. 24 cm.

— — Report for 1903-1904. N. C. Geol. Survey, Raleigh, E. M. Uzzell & Co., 1905. 32 pp. 24 cm.

Yearly reports of the work done by the Geological Survey

836. ——— Geology of the sand-hill country of the Carolinas.
Geol. Soc. Amer., Bull., v. 5 (1893): 33-34.
 Discusses Coastal Plain region of the Carolinas and general features of cretaceous and tertiary deposits.
837. ——— *and* NITZE, HENRY BENJAMIN CHARLES.
 Gold in the Carolinas.
(In Gold Fields along the Southern Railway. Wash., The Southern Railway, 1897. 17 cm. pp. 8-19.)
 Describes gold deposits and mining.
838. HOLMES, JOSEPH ALUSTIN.
 Historical notes concerning the North Carolina geological surveys.
Elis. Mit. Sci. Soc., Jour., v. 6 (1889): 5-18.
 Historical sketch of surveys of the state, with data as to organization and work accomplished.
839. ——— Improvement of public roads in North Carolina.
(In U. S. Dept. Agric., Yearbook, 1894. Wash., 1895. pp. 513-529.)
 Historical sketch of road improvement in the several counties, and an enumeration of the road materials available in the state.
840. ——— Mica deposits in the United States.
(In U. S. Geol. Survey, 20th Ann. Rept., pt. 6. Wash., 1899. pp. 691-707.)
 Abstract: Mineral Industry, v. 7 (1899): 510-511.
 Abstract: Science, n. s., v. 9 (1899): 142.
 Abstract: Am. Geol., v. 23 (1899): 106-108.
 Abstract: Eng. & Min. Jour., v. 67 (1899): 174.
 Discusses mica deposits in general. Describes nature of deposits, mode of occurrence, quantity and value of the mica found in the western counties of North Carolina, and gives a list of associated minerals in the mica-bearing pegmatites of the state. Notes on mining development and operation.
841. ——— Mica deposits of the United States.
Geol. Soc. Amer., Bull., v. 10 (1898): 501-503.
 General discussion of mica deposits, describing those of Mitchell and Yancey counties.
842. ——— Mica industry in North Carolina in 1900.
(In U. S. Geol. Survey, Min. Res., 1900. Wash., 1901. pp. 853-954.)
 Describes mica industry in Mitchell, Haywood, Yancey and Jackson counties in 1900.
843. ——— Mineralogical, geological and agricultural surveys of South Carolina.
Elis. Mit. Sci. Soc., Jour., v. 7 (1890): 89-117.
 Historical sketch of the scientific surveys of North and South Carolina.
844. ——— North Carolina mineral industry in 1898.
Eng. & Min. Jour., v. 67 (1899): 50-51.
 Describes copper mining in Person and Granville counties, gem mining in Macon, Mitchell and Yancey counties, and kaolin mining in Jackson county during the year.

845. — Notes on the kaolin and clay deposits of North Carolina.
 Am. Inst. Min. Eng., Trans., v. 25 (1895): 929-936.
 — — — Elis. Mit. Sci. Soc., Jour., v. 12, pt. 2 (1895): 1-10.
 Describes clay deposits of Jackson and other counties and gives historical data with methods of working the kaolin.
846. — Notes on the tornado which occurred in Richmond county, North Carolina, Feb. 19, 1884.
 Elis. Mit. Sci. Soc., Jour., v. 1 (1884): 28-34.
 Describes effects of this tornado.
847. — Notes on the underground supplies of potable waters in the south Atlantic Piedmont plateau.
 Am. Inst. Min. Eng., Trans., v. 25 (1895): 936-943.
 — — — Elis. Mit. Sci. Soc., Jour., v. 12, pt. 1 (1895): 31-41.
 An investigation of the sources of drinking waters in the region named, with a list of flowing wells in the Piedmont plateau of the Carolinas according to borings made by Henry E. Knox, Jr.
848. — and CAIN, WILLIAM.
 Road materials and road construction in North Carolina.
 N. C. Geol. Survey, Bull. 4. Raleigh, Josephus Daniel, 1893.
 88 pp. 24 cm.
 Historical notes on road construction in the state, description of the character and distribution of road material occurring in the several counties.
849. HOLMES, JOSEPH AUSTIN.
 A sketch of Professor Washington Caruthers Kerr, M. A., Ph. D.
 Elis. Mit. Sci. Soc., Jour., v. 4, pt. 2 (1887): 1-24.
 Short biographical sketch with a list of Kerr's published writings.
850. — Supplemental report on Sam Christian gold mine.
 MSS. N. C. Geol. Survey, 1886. 3 pp.
 Refers to a report on this property previously published, and describes conditions not described in the first report.
851. — Taxodium (cypress) in North Carolina quaternary.
 Elis. Mit. Sci. Soc., Jour., v. 2 (1885): 92-93.
 Describes fossil remains of taxodium found beneath a shell deposit in Craven county.
852. — Temperature and rainfall at various stations in North Carolina.
 Elis. Mit. Sci. Soc., Jour., v. 5 (1888): 31-41.
 Table of temperatures and precipitation.
853. Hoover Hill gold mine, North Carolina.
 Eng. & Min. Jour., v. 54 (1892): 520.
 Description of this mine in Randolph county.
854. HOPKINS, THOMAS C.
 North Carolina brownstone.
 (In his Building materials of Pennsylvania. Appendix to Ann. Rept. of Penna. State College for 1896. p. 117.)
 Describes occurrence of triassic brownstone in Anson, Macon and Chatham counties.

855. HORNE, ROBERT (supposed author).

Brief description of the province of Carolina on the coasts of Florida. And more particularly of a new plantation begun by the English at Cape Feare, on that river . . . London, Robert Horne, 1666. 10 pp. Map.

—— (In Hawkes, F. L. *History of North Carolina*. Fayetteville, N. C., 1858. Vol. 2, pp. 37-42.)

—— (In Carroll, B. R. *Historical collections of South Carolina*. New York, 1836. Vol. 2, pp. 9-13.)

This is the first printed description of North Carolina, after the first permanent settlement. Contains account of entrance to Cape Fear river, and notes on climate and soil.

856. HOWELL, EDWIN E.

Cross roads meteorite.

Am. Jour. Sci., Ser. III, v. 46 (1893): 67.

Describes fall of meteorite at Cross Roads, Wilson county.

HOYT, JOHN C.

Catawba river from Marion, North Carolina, to Connelly Springs, N. C.

See Hali and Hoyt, No. 700.

—— Progress of stream measurements in North Carolina.

See Grover and Hoyt, No. 682.

857. ——— Progress of stream measurements in 1903 in North Carolina.

(In U. S. Geol. Survey, Water-supply & Irrig. Paper No. 98. Wash., 1904. pp. 13-18; 26-38; 45-47; 265-275.)

Describes drainage basins of following rivers: Roanoke, Dan, Cape Fear, Yadkin, Nottely, Hiwassee, Little Tennessee and Tuckasegee. Gives tables of daily gauge heights made at stations on these rivers.

858. HUGER, T. B.

Comparisons of the hydrographic surveys made in December, 1856, and March, 1858, at the entrances of Cape Fear river, North Carolina.

(In U. S. Coast Survey, Rept. 1858. Appendix No. 13, Wash., 1858. pp. 150-151.)

859. HUMPHREYS, JOHN T.

Discoveries of minerals in western North Carolina.

Am. Nat., v. 15 (1831): 76-78.

Describes quartz crystals with basal planes from Catawba county, and gives lists of minerals found in Catawba and Burke counties.

860. HUNT, THOMAS, STERRY.

The decay of rocks, geologically considered.

Am. Jour. Sci., Ser. III, v. 26 (1883): 190-213.

Abstracts: *Science*, v. 1 (1883): 324-325.

Abstracts: *Am. Nat.*, v. 17 (1883): 645-646.

Discusses briefly the decay of the crystalline rocks of the Blue Ridge in North Carolina.

861. — Examination of some American minerals.
Am. Jour. Sci., Ser. II, v. 14 (1852): 340-346
 Abstract: *Jahresber. d. Chem., 1852, p. 887.*
 Abstract: *Pharm. Centr., 1853, p. 341.*
 Detailed descriptions and analyses of samarskite and rutherfordite from Rutherford county.
862. — A historical account of the taconic question in geology, with a discussion of the relations of the taconic series to the older crystalline rocks.
Roy. Soc. Can., Trans., v. 1, sec. 4 (1883): 217-270; v. 2, sec. 4 (1884): 125-157.
 Abstract by G. H. Williams. *Neues Jahr. f. Min., 1885, Bd. 1.*
 Ref. pp. 64-65.
 Discusses taconic of North Carolina in more or less detail, giving its distribution. Quotes largely from reports of Emmons and Kerr, stating their views and conclusions regarding this question.
863. — The iron-ores of the United States.
Am. Inst. Min. Eng., Trans., v. 19 (1890): 3-17.
 — — — *Eng. & Min. Jour., v. 50 (1890): 601-602, 622-624.*
 Describes iron-ore bearing belt near King's Mountain.
864. — Notes on the geology and economic mineralogy of the southern Appalachians.
Am. Assoc. Adv. Sci., Proc., meet., pt. 2 (1873): 113-115.
 A general physiographic and geologic account of the mountain region, containing the Smoky and Unaka ranges and the Blue Ridge, with descriptions of the mineral deposits. Describes character of iron and copper deposits with their economic value. Refers to the Ore Knob copper mine in Ashe county.
865. — On the ages of clays on the Atlantic seaboard.
Am. Inst. Min. Eng., Trans., v. 6 (1879): 188-189.
 Discusses taconic rocks to the east of the Blue Ridge.
866. — On the copper deposits of the Blue Ridge.
Am. Jour. Sci., Ser. III, v. 6 (1873): 305-308.
 Notes on copper ores found at the Ore Knob mine, Ashe county, and associated minerals.
867. — [On the crystalline rocks of the Blue Ridge, and their decomposition.]
Bost. Soc. Nat. Hist., Proc., v. 16 (1874): 115-117.
 Discusses crystalline rocks of North Carolina.
868. — On the geology of the ezoic rocks of North America.
Bost. Soc. Nat. Hist., Proc., v. 19 (1878): 275-279.
 Account of trip across the Blue Ridge into Mitchell county, and a study of rock-formations in that region.
869. — On wet processes of copper extraction.
Am. Assoc. Adv. Sci., Proc., 23 meet., pt. 2 (1874): 78-79.
 Describes workings at Ore Knob mine in North Carolina, and the Hunt and Douglas process in use.

870. — The Ore Knob copper mine.
 Eng. & Min. Jour., v. 16 (1873): 25-26; v. 18 (1874): 69-70.
 Describes copper ore deposit at Ore Knob, Ashe county, mode of occurrence of ores, and mining development.
871. — The Ore Knob copper mine and some related deposits.
 Am. Inst. Min. Eng., Trans., v. 2 (1874): 123-129; 130.
 Discussed by R. W. Raymond. pp. 129-130; 131.
872. — Remarks on the Hunt and Douglas copper process.
 Am. Inst. Min. Eng., Trans., v. 1 (1872): 258-260.
 Discusses this new process for extracting copper from its ores as applied in the treatment of the Ore Knob and Davidson county copper ores.
873. HUNTER, ALEXANDER.
 Through the Dismal Swamp.
 Potter's Amer. Monthly, v. 17 (1881): 1-15.
 Popular description of the Dismal Swamp. Refers to Wm. Byrd's survey for the boundary between North Carolina and Virginia, and gives a few extracts from his manuscript.
874. HUNTER, CYRUS L.
 Notices of the rarer minerals and new localities in North Carolina.
 Am. Jour. Sci., Ser. II, v. 15 (1853): 373-378.
 — Jour. f. prakt. Chem., v. 59 (1853): 510-511.
 Abstract: Neues Jahr. f. Min., 1854, pp. 345; 450.
 Describes occurrence of following minerals: Diamonds in Rutherford, Lincoln and Mecklenburg counties; gold in Cabarrus county; corundum and emery in Buncombe county; amethyst, lazulite, and kyanite in Lincoln county; chalcedonic quartz in Rutherford county, and leopardite in Mecklenburg county.
875. HUNTINGTON, J[OSHUA] H[ENRY] (?).
 Report on the Simpson gold and silver mining company's property in Mecklenburg county, North Carolina. Boston, 1880. 14 pp. (*Not seen.*)
876. HUNTINGTON, OLIVER WHIPPLE.
 Catalogue of all recorded meteorites. . . Cambridge, John Wilson & Son, 1887. 110 pp. 23 cm.
 — Am. Acad. Arts & Sci., Proc., v. 23 (1887): 37-110.
 Many meteorites from North Carolina are named and described.
877. HURLEY, T[OMAS] J[EFFERSON].
 Famous gold nuggets of the world. New York, Van Nostrand, 1900. 64 pp. 20 cm.
 Notes on gold nuggets from Reed mine in Cabarrus county, and from Stanly and Montgomery counties.
 The Blue Ridge highlands of western North Carolina.
 See Kelsey and Hutchinson, No. 967.
- HUTCHINSON, C. C.

878. In the North Carolina mountains.
Eng. & Min. Jour., v. 46 (1888): 259-260.
 Notes on scenery and mineral resources of western North Carolina.
879. Information and statistics respecting Wilmington, North Carolina. . . Wilmington, N. C., Jackson & Bell, 1883. 254 pp. 26 cm.
 Contains information regarding the improvement of the Cape Fear and Lillington rivers, notes on the swamp lands of Duplin county, and an account of the Duplin canal.
880. INGALLS, W_[ALTER] R_[ENTON].
 Copper production in North Carolina in 1905-1906.
Mineral Industry, v. 14 (1906): 133-134; v. 15 (1907): 214.
 Notes on copper production, principally from the Union mines at Gold Hill, Rowan county.
881. ——— [Monazite in North Carolina.]
(In The rare elements. Mineral Industry, v. 2 (1893): 559.)
 Notes on monazite mining and production in Rutherford, Polk, Alexander, Burke, McDowell and Mecklenburg counties.
882. ——— Nickel in North Carolina.
Mineral Industry, v. 1 (1892): 344-345.
 Notes on occurrence of hydrous silicate of magnesia and nickel at Webster, Jackson county.
883. INGRAM, J. N.
 North Carolina minerals.
Stone, v. 6 (1892): 33.
 Notes on topography of western North Carolina, and on the minerals found in the locality.
884. JACKSON, C_[HARLES] T_[HOMAS].
 [Age of trias of North Carolina.]
Bost. Soc. Nat. Hist., Proc., v. 5 (1855): 186.
885. ——— The coal-lands of Egypt, Belmont, Evans, Palmer and Wilcox plantations on Deep river, North Carolina.
Min. Mag., Ser. I, v. 2 (1854): 253-264.
 Discusses geology of this coal district and describes the ores.
886. ——— [Deep river coal deposits.]
L'Institut, v. 22 (1854): 166-167. *
 Contains notes on geological age of deposits.
887. ——— Deep River coal region of North Carolina.
Bost. Soc. Nat. Hist., Proc., v. 6 (1856): 30-34.
 ——— **Min. Mag., Ser. I**, v. 7 (1856): 373-376.
 Description of the Deep River coal formation and fossil remains found. Description and analysis of a variety of agalmatolite.
888. ——— Exploitation des mines de la Caroline du Nord.
Acad. des Sci., Comp. Rend., v. 46 (1858): 254-255.
 Notes on Silver Hill mine, Davidson county, and the Gold Hill mines [in Rowan county].
889. ——— Gold and copper mines of North Carolina.
Acad. des Sci., Comp. Rend., v. 38 (1854): 838-839.

- ——— Neues Jahr. f. Min., 1855, p. 843.
 Abstract: Archiv des Sci. Phy. et Nat., v. 27 (1854): 249-250.
 Brief account of the coal formation at Deep river, fossils found and notes on the gold and copper mines.
890. ——— [Notes on gold mines of the Carolinas.]
 L'Institut, v. 22 (1854): 375.
 ——— ——— Neues Jahr. f. Min., 1855, pp. 846-847.
 Notes on production of the Gold Hill mine.
891. ——— [On economic geology of North Carolina.]
 Bost. Soc. Nat. Hist., Proc., v. 4 (1853): 397-401.
 Brief description of the coal field in Moore and Chatham counties, and notes on the McCullock, Gold Hill, Capps and Union county mines.
892. ——— Report on the coal fields on Deep river in North Carolina—the Foshee and Street estates.
 Min. Mag., Ser. I, v. 9 (1857): 548-550.
 ——— ——— (In Brief statement of the North Carolina Gas-coal Company . . . Phila., 1856. pp. 7-10.)
 Description of the coal field, and analyses of two samples of coal, one from the Egypt mine and one of the "black-band" ore.
893. ——— Report on the Conrad Hill gold mine, Davidson county, North Carolina.
 Min. Mag., Ser. I, v. 2 (1854): 190-191.
894. ——— Report on the copper mine of the North Carolina copper company in Guilford county, North Carolina. Boston, 1853.
 8 pp. 23 cm.
 ——— ——— Min. Mag., Ser. I, v. 1 (1853): 44-47.
 Review: Min. Mag., Ser. I, v. 1 (1853): 290-292.
 Describes mines, veins and mining operations on this property.
895. ——— Report on the McCullock copper and gold mining company of North Carolina. New York, McSpedon & Baker, 1853.
 10 pp. 22 cm.
 Description of this mine located at Greensboro, Guilford county.
896. ——— Sur les mines de cuivre et de houille de la Caroline du Nord.
 Soc. Géol. de France, Bull., Ser. II, v. 10 (1853): 505-506.
 Notes on copper mining, and coal deposits.
897. ——— Sur quelques mines de la Caroline du Nord.
 L'Institut, v. 25 (1857): 351-352.
 Acad. des Sci., Comp. Rend., v. 47 (1858): 618-619.
 Notes on operations of the Silver Hill mine, Davidson county, a copper mine in Guilford county, and the Steel gold mine of Montgomery county.
898. JENKS, CHARLES N.
 Corundum in North Carolina.
 Mineral Industry, v. 5 (1896): 15-23.
 Historical account of discovery of corundum in the state, the different varieties, mines and mining operations.

899. — Sapphire in North Carolina.

Mineral Industry, v. 5 (1896): 235-238.

Describes oriental sapphires and crystals of ruby corundum found at Corundum Hill, Macon county.

900. JENKS, CHARLES W.

Corundum and its gems. A lecture before the Soc. of Arts at Mass. Inst. Tech., 1876.

Eng. & Min. Jour., v. 26 (1878): 311-313.

Description of the corundum locality in the Blue Ridge in western North Carolina, where corundum gems have been discovered *in situ*.

901. — Corundum of North Carolina.

Am. Jour. Sci., Ser. III, v. 3 (1872): 301-302.

Notes on occurrence of corundum masses in Franklin, Macon county, describing the veins and associated minerals.

902. — Notes on the occurrence of sapphires and rubies *in situ* with corundum at the Culsagee corundum mine in Macon county, North Carolina.

Geol. Soc., Quart. Jour., v. 30 (1874): 303-305.

Abstract: Geol. Mag., Dec. II, v. 1 (1874): 234-235.

Abstract: Phil. Mag., Ser. III, v. 49 (1875): 152.

Abstract: Quart. Jour. Sci., v. 11 (1874): 264-265.

Abstract: Neues Jahr. f. Min., 1875, pp. 189-190.

Account of discovery of corundum deposits in Macon county in 1871. Describes the veins, occurrence of the mineral and associated minerals. Analyses by Chatard, Genth and Koenig.

903. JOHNSON, B. L.

Pleistocene terracing in the North Carolina coastal plain.

Science, n. s., v. 26 (1907): 640-642.

Discusses causes of topography of the coastal plain, and describes formation of the ridges and terraces.

904. JOHNSON, WALTER ROGERS.

Coal field of North Carolina.

(In *his* Coal trade of British America . . . Wash., Taylor & Maury; Phila., A. Hart, 1850. 23 cm. pp. 161-167.)

Describes Deep River coal field in Chatham county.

905. — The coal lands of the Deep River company in North Carolina, with analyses of minerals.

Min. Mag., Ser. I, v. 1 (1853): 352-365.

Describes this coal region, and gives analyses of the coal.

906. — On the coal formation of central North Carolina.

Am. Assoc. Adv. Sci., Proc., 4th meet. (1850): 274-276.

Discusses relation of the coal-bearing formation of Moore and Chatham counties to the metamorphic slates upon which it rests. Analyses of coal.

907. — Report on the coal lands of the Deep River mining and transportation company in Chatham and Moore counties, North Carolina, with analyses of minerals. Albany, Weed, Parsons & Co., 1851. 39 pp. Plates. Maps. 23 cm.

Reports on general character of these coal lands, estimates cost of mining, and gives tables of analyses of varieties of coal.

908. — Some observations on the gold formations of Maryland, Virginia and North Carolina.
Am. Assoc. Adv. Sci., Proc., 4th meet. (1850): 20-21.
 Describes a portion of the gold region extending through Rockingham, Guilford, Davidson, Rowan, Cabarrus and Mecklenburg counties, and the veins in which the gold occurs.
909. JOHNSTON, ROBERT J. P.
 Examination of Cape Fear river at and below Wilmington, N. C.
 U. S. 59th Cong., 1st Sess., 1905. House Doc. No. 545.
 9 pp.
910. — Improvement of Beaufort Harbor, North Carolina.
(In Chief of Eng. Rept., 1906, pt. 1. Appendix M 7, pp. 1153-1154.)
911. — Improvement of Beaufort inlet, North Carolina.
(In Chief of Eng. Rept., 1906, pt. 1. Appendix M 8, pp. 1155-1156.)
912. — Improvement of Cape Fear river, North Carolina, at and below Wilmington.
(In Chief of Eng. Rept., 1904, pt. 2. Appendix M 12, pp. 1495-1505.)
 — — *(In Chief of Eng. Rept., 1905, pt. 1. Appendix M 13, pp. 1224-1234.)*
 — — *(In Chief of Eng. Rept., 1906, pt. 1. Appendix M 13, pp. 1165-1169.)*
 Reports of progress.
913. — Improvement of Contentnea creek, North Carolina.
(In Chief of Eng. Rept., 1905, pt. 1. Appendix M 4, pp. 1205-1207.)
 — — *(In Chief of Eng. Rept., 1906, pt. 1. Appendix M 4, pp. 1147-1148.)*
914. — Improvement of Fishing creek, North Carolina.
(In Chief of Eng. Rept., 1905, pt. 1. Appendix M 2, p. 1203.)
 — — *(In Chief of Eng. Rept., 1906, pt. 1. Appendix M 2, p. 1145.)*
915. — Improvement of harbor at Beaufort, North Carolina.
(In Chief of Eng. Rept., 1904, pt. 2. Appendix M 8, pp. 1486-1487.)
 — — *(In Chief of Eng. Rept., 1905, pt. 1. Appendix M 7, pp. 1212-1213.)*
916. — Improvement of Neuse and Trent rivers, North Carolina.
(In Chief of Eng. Rept., 1904, pt. 2. Appendix M 6, pp. 1481-1485.)
 — — *(In Chief of Eng. Rept., 1905, pt. 1. Appendix M 5, pp. 1207-1210.)*

- ——— (*In Chief of Eng. Rept.*, 1906, pt. 1. Appendix M 5, pp. 1149-1152.)
Reports of progress.
917. ——— Improvement of New river, North Carolina.
(*In Chief of Eng. Rept.*, 1906, pt. 1. Appendix M 11, pp. 1158-1159.)
918. ——— Improvement of Northeast and Black rivers, and Cape Fear river above Wilmington, North Carolina.
(*In Chief of Eng. Rept.*, 1904, pt. 2. Appendix M 11, pp. 1490-1495.)
—— ——— (*In Chief of Eng. Rept.*, 1905, pt. 1. Appendix M 12, pp. 1218-1224.)
—— ——— (*In Chief of Eng. Rept.*, 1906, pt. 1. Appendix M 12, pp. 1159-1164.)
Reports of progress.
919. ——— Improvement of Pamlico and Tar rivers, North Carolina.
(*In Chief of Eng. Rept.*, 1904, pt. 2. Appendix M 4, pp. 1479-1480.)
—— ——— (*In Chief of Eng. Rept.*, 1905, pt. 1. Appendix M 3, pp. 1204-1205.)
—— ——— (*In Chief of Eng. Rept.*, 1906, pt. 1. Appendix M 3, pp. 1146-1147.)
Reports of progress.
920. ——— Improvement of waterway between Beaufort harbor and New river, North Carolina.
(*In Chief of Eng. Rept.*, 1904, pt. 2. Appendix M 9, pp. 1488-1489.)
—— ——— (*In Chief of Eng. Rept.*, 1905, pt. 1. Appendix M 9, pp. 1214-1216.)
921. ——— Improvement of waterway between Newbern and Beaufort, North Carolina.
(*In Chief of Eng. Rept.*, 1905, pt. 1. Appendix M 6, pp. 1210-1212.)
—— ——— (*In Chief of Eng. Rept.*, 1906, pt. 1. Appendix M 6, pp. 1152-1153.)
922. ——— Inland waterway between New river and Swansboro, North Carolina.
(*In Chief of Eng. Rept.*, 1906, pt. 1. Appendix M 10, pp. 1157-1158.)
923. ——— Preliminary examination and survey of Carrot island slough and Lewis Thoroughfare, North Carolina, from Middle Marshes to Newport river.
(*In Chief of Eng. Rept.*, 1904, pt. 2. Appendix M 14, pp. 1505-1511.)
—— ——— U. S. 58th Cong., 2d Sess., 1903. House Doc. No. 210. 7 pp.

924. — Preliminary examination and survey of Livingston creek, North Carolina.
(*In* Chief of Eng. Rept., 1904, pt. 2. Appendix M 16, pp. 1516-1521.)
- — — U. S. 58th Cong., 2d Sess., 1903. House Doc. No. 249. 7 pp.
925. — Preliminary examination and survey of Neuse river, North Carolina, from Goldsborough to Newbern.
(*In* Chief of Eng. Rept., 1904, pt. 2. Appendix M 18, pp. 1525-1537.)
- — — U. S. 58th Cong., 2d Sess., 1903. House Doc. No. 648. 13 pp.
926. — Preliminary examination of Indian island slough, North Carolina, from Pamlico river to mouth of South river.
(*In* Chief of Eng. Rept., 1904, pt. 2. Appendix M 15, pp. 1511-1516.)
- — — U. S. 58th Cong., 2d Sess., 1903. House Doc. No. 113. 6 pp.
927. — Preliminary examination of Lockwood Folly river, North Carolina.
(*In* Chief of Eng. Rept., 1904, pt. 2. Appendix M 17, pp. 1522-1525.)
- — — U. S. 58th Cong., 2d Sess., 1903. House Doc. No. 229. 5 pp.
928. — Preliminary examination of New river, North Carolina.
(*In* Chief of Eng. Rept., 1904, pt. 2. Appendix M 19, pp. 1537-1542.)
- — — U. S. 58th Cong., 1903. House Doc. No. 239. 6 pp.
929. — Preliminary examination of Northeast river, North Carolina.
U. S. 59th Cong., 1st Sess., 1905. House Doc. No. 229. 5 pp.
930. — Preliminary examination of Pamlico and Tar rivers, North Carolina.
U. S. 59th Cong., 2d Sess., 1907. House Ex. Doc. No. 342. 10 pp.
931. — Preliminary examination of Shallotte river, North Carolina, from its mouth to the town of Shallotte.
U. S. 59th Cong., 1st Sess., 1905. House Doc. No. 146. 4 pp.
932. JONES, JOHN H.
Coal product of North Carolina.
(*In* U. S. Census Bull. 94. Wash., 1891. pp. 15-16.)
Abstract: Eng. & Min. Jour., v. 52 (1891): 168.
Notes on coal deposits and production in Stokes and Rockingham counties along the Dan river, and in Chatham and Moore counties in the Deep River valley.
933. JONES, JOSEPH SEAWELL.
Gold mines of North Carolina.
(*In* his Memorials of North Carolina. New York, Scatcherd & Adams, 1838. 23 cm. pp. 82-85.)
Historical and traditional data on gold mines of the state.

934. JOYNER, A.

Report of the select committee on the re-opening of Nag's Head inlet in North Carolina.

N. C. Gen. Assem., Sen. Doc. No. 50. Raleigh, Thos. J. Lemay, 1850. 5 pp. 21 cm.

Résumé of surveys and work done in regard to re-opening Nag's Head inlet.

935. JUDD, EDWARD K.

Barytes in North Carolina.

(In Barytes. Mineral Industry, v. 15 (1907): 68.)

Notes on barite production at Stackhouse.

936. — Corundum and emery in North Carolina.

(In Corundum and emery. Mineral Industry, v. 14 (1906): 191; 193.)

Notes on corundum occurrence in fifteen counties, and on occurrence of emery in Macon county.

937. — The Virgilina copper belt.

Eng. & Min. Jour., v. 82 (1906): 1005-1008.

Describes location and geology of the Virgilina copper district in Granville and Person counties, North Carolina, occurrence of the copper ores, mines and mining operations.

938. JUDD, J. W. and HIDDEN, WILLIAM E.

On a new mode of occurrence of ruby in North Carolina. With crystallographic notes by J. H. Pratt.

Am. Jour. Sci., Ser. IV, v. 8 (1899): 370-381.

— — Min. Mag. & Jour. Min. Soc., London, v. 12 (1899): 139-149.

— — (In The American Prospecting and Mining Co. Reports upon the property. New York, 1899. pp. 31-40.)

Review: Am. Geol., v. 25 (1900): 175-176.

Abstract by M. L. Fuller: Am. Chem. Research, Rev., v. 6 (1900): 67-68.

Abstract by A. S. Eakle: Zts. f. Kryst. u. Min., v. 34 (1900): 88.

Abstract by A. Klautzsch: Zts. f. prakt. Geol., 1902, pp. 61-62.

Abstract by F. Rinne & K. Busz: Neues Jahr. f. Min., 1901, Bd. 1. Min., pp. 187-189

Detailed description of occurrence of rubies in Macon county, on a tract of land between Caler Fork of Cowee creek and the Mason branch. Crystallographic measurements and description by Joseph Hyde Pratt.

939. JULIEN, ALEXIS A.

The dunyte-beds of North Carolina.

Bost. Soc. Nat. Hist., Proc., v. 22 (1882): 141-149.

Review: Am. Jour. Sci., Ser. III, v. 27 (1884): 72.

Review by G. H. Williams: Neues Jahr. f. Min., 1884, Bd. 2.

Ref., p. 347.

Describes distribution, geology and petrology of the rock, mode of occurrence, alterations and origin.

940. — The genesis of the crystalline iron-ores.
 Acad. Nat. Sci. Phila., Proc., [v. 34] (1882): 335-346.
 Abstract by G. H. Williams: Neues Jahr. f. Min., 1884, Bd. 2.
 Ref., p. 347.
 Discusses garnet rock at the Buckhorn mine, Harnett county.
941. — The genesis of the pegmatite in North Carolina.
 Am. Assoc. Adv. Sci., Proc., 49th meet. (1900): 189.
 Notice of a paper read before the Association in which the author reviews the hypothesis based on the principles of intrusion, vein infiltration or segregation, from observations made in North Carolina.
942. — and BOLTON, HENRY, CARRINGTON.
 Notice of the microscopical examination of a series of ocean, lake, river and desert sands.
 Am. Assoc. Adv. Sci., Proc., 33d meet. (1885): 413-415.
 Contains notes on sands near Cape Hatteras.
943. JULIEN, ALEXIS, ANASTAY.
 On the geological action of the humus acids.
 Am. Assoc. Adv. Sci., Proc., 28th meet. (1880): 311-410.
 Discusses dunite beds of North Carolina with regard to decomposition, and mentions occurrence of hyalite crusts at Juggenheim's mine in Yancey county, and at the Puzzle mine in Mitchell county.
944. JUNKEN, CHARLES.
 Hydrographic development of the Cape Lookout Shoals, North Carolina.
 (In U. S. Coast Survey, Rept. 1865. Wash., 1866. Appendix 4, p. 45.)
945. JUSTICE, GEORGE M.
 On itacolumite from Stokes county, North Carolina.
 Am. Phil. Soc., Proc., v. 4 (1847): 244.
946. KASE, J. D.
 The iron ores of North Carolina.
 Eng. & Min. Jour., v. 57 (1894): 555.
 Letter regarding statement made by W. B. Phillips that only the iron ores found in the western part of North Carolina are worth consideration, and purporting to be taken from H. B. C. Nitze's report on the iron ores, published by the N. C. Geol. Survey.
947. KEARNEY, JAMES.
 Dismal swamp, Winyaw bay, Core sound.
 U. S. 25th Cong., 2d Sess., 1838. House Ex. Doc. No. 445. 14 pp.
 Detailed description of survey made from Dismal Swamp canal to Winyaw bay, and of Core sound.
948. — Report of surveys and examinations near the coast of North and South Carolina during the year 1837.
 MSS. U. S. War Dept., Office of Chief of Eng., Wash., D. C. 23 pp.
 These reports include Pasquotank, Neuse and Cape Fear rivers, and Croatan, Core and Bogue sounds.

949. — Report on an examination of canal between Deep creek, Virginia, and Joyce's creek in North Carolina.
(*In Chesapeake and Delaware, and Dismal Swamp canals. Am. State Papers, Misc., v. 2. Wash., Gales & Seaton, 1834, pp. 440-442.*)
950. — Report relative to the connection of the waters of Elizabeth river and the waters of North Carolina in obedience to orders of the 31 May, 1816.
MSS. U. S. War Dept., Office of Chief of Eng., Wash., D. C. 21 pp. Map.
951. KEITH, ARTHUR.
Appalachian mountains and valleys.
Science, n. s., v. 25 (1907): 865-867.
Abstract of paper read before Geol. Society of Washington giving general description of Appalachian structure.
952. — Asheville folio, North Carolina—Tennessee.
U. S. Geol. Survey, Geol. Atlas U. S. No. 116. Wash., 1904.
Plates. Maps.
Lat. 35° 30'-36°; long. 82° 30'-83°; scale, 1:125,000. Contour interval 100 feet.
953. — Cranberry folio, North Carolina—Tennessee.
U. S. Geol. Survey, Geol. Atlas U. S. No. 90. Wash., 1903.
Plates. Maps.
Lat. 36°-36° 30'; long. 81° 30'-82°; scale, 1:125,000. Contour interval 100 feet.
954. — Folded faults of the southern Appalachians.
(*In Congrès géologique internat., Comp. Rend. IX Sess., Vienna, 1904. 28 cm. pp. 541-545.*)
Abstract by C. Gagel: Geol. Centralblatt, v. 6 (1905): 23.
Describes typical Appalachian structure and produces evidence and arguments to prove the existence of thrust faults.
955. — Geological structure of the Cranberry district.
Science, n. s., v. 4 (1896): 926-927.
Brief account of a communication by Mr. Keith on the structure of the Cranberry district in North Carolina.
956. — Greeneville folio, Tennessee—North Carolina.
U. S. Geol. Survey, Geol. Atlas U. S. No. 118. Wash., 1895.
Plates. Maps.
Lat. 36°-36° 30'; long. 82° 30'-83°; scale, 1:125,000. Contour interval 100 feet.
957. — Iron-ore deposits of the Cranberry district, North Carolina—Tennessee.
(*In U. S. Geol. Survey, Bull. 213. Wash., 1903. pp. 243-246.*)
Describes deposits of Iron ores at Cranberry, with account of the mines.
958. — Knoxville folio, Tennessee—North Carolina.
U. S. Geol. Survey, Geol. Atlas U. S. No. 16. Wash., 1895.
Plates. Maps.
Lat. 35° 30'-36°; long. 82° 30'-83°; scale, 1:125,000. Contour interval 100 feet.

959. — Mount Mitchell folio, North Carolina—Tennessee.
 U. S. Geol. Survey, Geol. Atlas U. S. No. 124. Wash., 1905.
 Plates. Maps.
 Lat. $35^{\circ} 30' - 36^{\circ}$; long. $82^{\circ} - 82^{\circ} 30'$; scale, 1:125,000.
 Contour interval 100 feet.
960. — Nantahala folio, North Carolina—Tennessee.
 U. S. Geol. Survey, Geol. Atlas U. S. No. 143. Wash., 1907.
 Plates. Maps.
 Lat. $35^{\circ} - 35^{\circ} 30'$; long. $83^{\circ} 30' - 84^{\circ}$; scale, 1:125,000.
 Contour interval 100 feet.
961. — Pisgah folio, North Carolina—South Carolina.
 U. S. Geol. Survey, Geol. Atlas U. S. No. 147. Wash., 1907.
 Plates. Maps.
 Lat. $35^{\circ} - 35^{\circ} 30'$; long. $82^{\circ} 30' - 83^{\circ}$; scale, 1:125,000.
 Contour interval 100 feet.
962. — Roan Mountain folio, Tennessee—North Carolina.
 U. S. Geol. Survey, Geol. Atlas U. S. No. 151. Wash., 1907. Plates. Maps.
 Lat. $36^{\circ} - 36^{\circ} 30'$; long. $82^{\circ} - 82^{\circ} 30'$; scale, 1:125,000.
 Contour interval 100 feet.
963. — Tale deposits of North Carolina.
 (In U. S. Geol. Survey, Bull. 213. Wash., 1903. pp. 433-438.)
 Describes character, occurrence and methods of mining tale deposits in western part of the state.
964. — Topography and geology of the southern Appalachians.
 (Appendix B to Roosevelt, T. Message from the President transmitting a report of the Secretary of Agriculture in relation to the forests, rivers and mountains of the southern Appalachian region. U. S. 57th Cong., 1st Sess., Sen. Ex. Doc. No. 84. Wash., 1902. pp. 111-112.)
 Topographical and geological description of the mountain systems of western North Carolina, comprising the Blue Ridge and Smoky mountains with their sub-divisions, together with the river systems, climatic features and soils.
965. KEITH, N. S.
 New methods in the metallurgical treatment of copper ores.
 Frank. Inst., Jour., v. 160 (1905): 147-155.
 Describes method of treating siliceous copper-bearing rocks such as exist in the Virgilina district in Granville and Person counties, to extract the copper, gold and silver.
966. KELLER, H. A.
 Report on the Virgilina mining district situated in Virginia and North Carolina.
 MSS. in possession of N. C. Geol. Survey. 25 pp.
 Report on examinations of this district made in 1904 and in 1907. Describes geology and general conditions of the locality and the following mines: Blue Wing, Copper King and Durgy.
- KELLER, HARRY F.
 Memoir of Frederick Augustus Genth.
 See Wahl, Keeler and Wolf, No. 1817.

967. KELSEY, S. T. *and* HUTCHINSON, C. C.
The Blue Ridge highlands of western North Carolina.
Greenville, S. C., 1876. 12 pp. 21 cm. Highlands, Macon
Co., N. C., 1878. 24 pp. 21 cm.
Description of western North Carolina with notes on mineral resources and advantages of climate.
968. KEMP, J_[AMES] F_[URMAN].
Geological relations and distribution of platinum and associated metals.
(*In* U. S. Geol. Survey, Bull. 193. Wash., 1902. pp. 34; 58-59.
Describes discovery of sperrylite by W. E. Hidden in 1894 in Macon county, and a fresh discovery in 1898 in connection with the mining of rhodolite.
969. KENNGOTT, GUSTAV ADOLPH.
[North Carolina meteorites.]
(*In* his *Uebersicht der Resultate mineralogischer Forschungen in den Jahren 1850 und 1851*. Wien, 1853. pp. 135; 136.)
Contains brief descriptive notes on the Asheville, Hominy Creek, Black Mountain and Randolph county meteorites.
970. KENWORTHY, CHARLES J.
Roan mountain, western North Carolina.
Amer. Climat. Assoc., Trans., v. 5 (1888): 114-120.
Description of Roan mountain in Mitchell county, and its advantages as a health resort.
971. KERR, W_[ASHINGTON] C_[ARUTHERS].
Appendix to the report of the Geological Survey of North Carolina, 1873, being a brief abstract of that report, and a general description of the state, geographical, geological, climatic and agricultural. Raleigh, Stone & Uzzell, 1873. 24 pp. 22 cm. Map.
Map is based on Colton's map and shows timber belts, elevations and location of mines then in operation. Gives a brief outline of the minerals found, with localities. This appendix to a report which was never published was somewhat revised and reissued by the Survey in 1882 with title, *Physiographical description of North Carolina*.
972. — The developed and undeveloped mineral wealth in North Carolina.
The Virginias, v. 1 (1880): 72-73.
Letter from Prof. Kerr to Governor Jarvis describing his address to the Chamber of Commerce in Pittsburg in reference to extension of Pittsburg Southern Railway into North Carolina. This address described the geological formations, metal and mineral deposits of North Carolina, and advantages to be gained in regard to commercial facilities by extension of railroad.
973. — Distribution and character of the eocene deposits in eastern North Carolina.
Elis. Mit. Sci. Soc., Jour., v. 2 (1885): 79-84.

- — Am. Nat., v. 19 (1885): 69.
 Review by E. Koken: Neues Jahr. f. Min., 1887, Bd. 1. Ref., p. 119.
 Discusses deposits between the Neuse and Cape Fear rivers, formerly considered quaternary, but now considered eocene.
974. — Geological relations of the topography of the south Appalachian plateau.
 Science, v. 1 (1883): 105.
 Discusses topography between the Blue Ridge and Smoky mountains.
975. — Geological survey of North Carolina.
 (In N. C. Agric. Exp. Station, Bull. July, 1881, pp. 2-3.)
 Outlines work of the geological survey, gives table of mean humidity, and notes on mining industries.
976. — The geology of Hatteras and the neighboring coast.
 Phil. Soc. Wash., Bull., v. 6 (1883): 28-30.
 Review: Science, v. 1 (1883): 402.
 Describes the coast lines and refers Cape Hatteras to the cretaceous formation.
977. — The gold gravels of North Carolina—their structure and origin.
 Am. Inst. Min. Eng., Trans., v. 8 (1880): 462-466.
 Extract: The Virginias, v. 1 (1880): 166-168.
 Abstract: Am. Nat., v. 15 (1881): 75.
 Discusses the deep residual decay of the rocks of the south, and the formation and occurrence of the gold gravels.
978. — Letter to the North Carolina Land Co., enumerating general resources of the state.
 (In Statistical and descriptive account of the several counties of the State of North Carolina. Raleigh, Nichols & Gorman, 1869. 22 cm. pp. 95-113.)
 Contains geographic and climatic notes on the state, its agricultural resources and mineral deposits.
979. — Marls of North Carolina.
 (In N. C. Agric. Exp. Station, 3d Ann. Rept. Raleigh, 1880. 23 cm. pp. 77-92.)
 Describes in detail the occurrence of three kinds of marl belonging to three different geological formations, in thirty counties in the eastern part of the state.
980. — The mica veins of North Carolina.
 Am. Inst. Min. Eng., Trans., v. 8 (1880): 457-462.
 Abstract: Phil. Soc. Wash., Bull., v. 7 (1884): 9.
 Abstract: Science, v. 1 (1880): 138.
 Abstract: The Virginias, v. 1 (1880): 161-170.
 Notice: Science, v. 3 (1884): 208.
 Notice: Eng. & Min. Jour., v. 31 (1881): 211-212.
 Abstract by G. W. Hawes: Neues Jahr. f. Min., 1881, Bd. 1. Ref., p. 387.
 Discusses types and characteristics of the mica veins giving sketches and diagrams. Mentions the associated minerals and describes rocks in which the veins occur.

981. — Mineral resources of North Carolina.
(In North Carolina. Board of Immigration, Statistics and Agriculture. North Carolina: its resources and progress. Raleigh, Josiah Turner, 1875. 23 cm. pp. 45-58.)
 — — — *(In North Carolina. Board of Immigration, Statistics and Agriculture. North Carolina: its resources and progress. Raleigh, Daily News book and job press, 1876. 22 cm. pp. 43-56.)*
Brief account of the mineral resources of the state.
 — Minerals and mineral localities of North Carolina, being Chapter I of the second volume of the *Geology of North Carolina*.
See Genth and Kerr, No. 642.
982. — The minor minerals of North Carolina.
(In U. S. Geol. Survey, Min. Res., 1882. Wash., 1883. pp. 659-661.)
Notes on minor mineral deposits in the western counties.
983. — North Carolina.
Encyclopaedia Britannica, v. 17 (1884): 558-562.
General description of the state and its resources, including geology, minerals, soils, forests and mining.
984. — North Carolina building stones.
(In Building stones and the quarry industry. U. S. 10th census Rept., 1880, v. 10. Wash., 1884. pp. 181-186. Compiled from schedule reports by W. C. Kerr and W. H. Kerr.)
Describes deposits of sandstone in Anson, Moore, Chatham and Durham counties, gray granite in the central and western counties, marble and limestone in Madison, Macon, Cherokee and McDowell counties, and talc or soapstone in Cherokee, Guilford, Alamance and Moore counties.
985. — [North Carolina resources.]
(In N. C. Gen. Assem., Sess. 1883. Ex. Doc. No. 18, pp. 53-58.)
Letter to the Governor describing resources of the state, and the geological investigations in progress.
986. — Note on uranium minerals in North Carolina.
Am. Jour. Sci., Ser. III, v. 14 (1877): 496.
Describes the Flat Rock mine, which yields uraninite, gumite, uraconite in association with samarskite.
987. — Observations on the mesozoic of North Carolina.
Am. Assoc. Adv. Sci., Proc., 23d meet. (1874): pt. 2, pp. 47-49.
Discusses triassic formation.
988. — On frost drift in North Carolina.
Acad. Nat. Sci. Phila., Proc., [v. 28] (1876): 157-158.
Abstract: Am. Nat., v. 10 (1876): 757-758.
Describes as frost drift a peculiar arrangement of earth and stone materials among the foothills of the Blue Ridge and over a portion of the Piedmont region.

989. — On peculiarities of the mode of occurrence of gold in North Carolina.

Eng. & Min. Jour., v. 33 (1882): 121.

Describes modes of occurrence of gold at the different mines.

990. — On some points in the stratigraphy and surface geology of North Carolina.

Am. Nat., v. 4 (1871): 570.

Discusses origin and formation of the coal-bearing triassic rocks, the quaternary gravels, and the evidences of oscillations of sea level in the eastern part of the state.

991. — On the action of frost in the arrangement of superficial earthy material.

Am. Jour. Sci., Ser. III, v. 21 (1881): 345-358.

Discusses present topography of western North Carolina, and describes surface creep and allied phenomena due to frost action.

992. — *and* HANNA, GEORGE BYRON₁.

Ores of North Carolina: being Chapter II of the second volume of the geology of North Carolina. Raleigh, Edwards & Broughton, 1888. 125: 359 pp. 24 cm. Illus. Maps.

Appendices: (a) The gold gravels of North Carolina, their structure and origin. (Reprinted from Am. Inst. Min. Eng., Trans., v. 6 (1880): 462.) (b) On some peculiarities in the occurrence of gold in North Carolina. (Reprinted from Am. Inst. Min. Eng., Trans., v. 10 (1880): 475.) (c) On the action of frost in the arrangement of superficial earthy material. (Reprinted from Am. Jour. Sci., Ser. III, v. 21 (1881): 345-358.)

Discusses iron, silver, lead, zinc, copper and gold ores of the state. Numerous maps and cross-sections illustrate the workings, location and nature of the mines. Many analyses are given.

993. KERR, WASHINGTON₁ CUTHBERTS₁.

Origin of some new points in the topography of North Carolina.

Am. Jour. Sci., Ser. III, v. 21 (1881): 216-219.

Discusses probability of occurrence of glaciation on a large scale.

994. — Our mineral wealth.

South Atlantic, v. 2 (1878): 289-299; 470-474; 484-495.

Popular account of the mineral resources of the state.

995. — Outlines of the physical geography of the State of North Carolina.

(In U. S. 10th Census Rept., v. 6, pt. 2. Wash., 1884. pp. 541-557.)

Describes physical and geological features of the state, and gives analyses of marls and soils by E. H. Bogardus and G. B. Hanna.

996. — Physiographical description of North Carolina, 1879. Raleigh, Ashe & Gatling, 1882. 322 pp. 21 cm. Map.
 Revised reprint of the appendix to the report of the Geological Survey, 1873. The report was never published.
997. — Report of geologist in charge of the southern division of the U. S. Geol. Survey, on resources of the country along the line of the Cape Fear and Yadkin Valley R. R., through the middle region of North Carolina from the head of navigation near the Atlantic seaboard to the Blue Ridge and high plateau beyond to the border of the great valley of Virginia and Tennessee.
(In Hale, P. M. In the coal and iron counties of North Carolina. Raleigh, 1883. 19 cm. pp. 216-236.)
 Describes main features of route, topography, climate, soils, minerals, forests, agricultural products, manufactures and water-power.
998. — Report of progress of the geological survey of North Carolina, 1866-1868. Raleigh, W. E. Pell, 1867-1869. 2 vols. 21½ cm.
 Notice: Am. Jour. Sci., Ser. II, v. 43 (1867): 284.
 Account of progress of geological investigation of the western counties of the state. Describes topography, surface, economical and agricultural geology. 1867-1868 covers two years. 1867-1868 has no title page and has at head of caption title, Doc. No. 27, Sess. 1868-1869.
999. — Report of State geologist.
 N. C. Gen. Assem., Sess. 1870-1871. Ex. Doc. No. 29. 6 pp. 21 cm.
 Brief notes on work and expenditures of the State geologist for the year.
1000. — Report of the geological survey of North Carolina.
 N. C. Gen. Assem., Sess. 1872-1873. Ex. Doc. 16. 4 pp.
 This report was never published.
1001. — Report of the geological survey of North Carolina, Vol. I: Physical geography, résumé, economical geology. Raleigh, Josiah Turner, 1875. 235,120 pp. 24 cm. Fig. Map.
 Appendices: (a) Descriptions of new genera and species of fossil shells of North Carolina, by T. A. Conrad. (b) Synopsis of the vertebrata whose remains have been preserved in the formations of North Carolina, by E. D. Cope. (c) Preliminary report on the minerals of North Carolina, by F. A. Genth. (d) Corundum and its associated rocks: Essay on the geology of western North Carolina, by C. D. Smith. (*For annotations of appendices, see under respective authors.*)
- — Raleigh, Josiah Turner, 1875. Without appendices.
 Review and summary: Neues Jahr. f. Min., 1876, pp. 322-324.
 Review: Am. Jour. Sci., Ser. III, v. 11 (1876): 61-62.

1002. — Report of the State geologist concerning the establishment of a department of agriculture.
N. C. Gen. Assem., Sess. 1876-1877. Ex. Doc. No. 32. 12 pp. 21 cm.
Briefly outlines benefits to the state to be gained by the establishment of a department of agriculture.
1003. — Report of the State geologist on the expenditures of the geological survey.
N. C. Gen. Assem., Sess. 1876-1877. Ex. Doc. 21. 17 pp. 21 cm.
Contains itemized statement of expenditures of geological survey for 1876.
1004. — Report on the geology and the soils of the tobacco region of North Carolina.
(In Tobacco production in the United States. U. S. 10th Census Rept., 1880, v. 3. Wash., 1883. pp. 121-125.)
Describes rock formations producing soils of the bright tobacco region of the state. Analyses of soils.
1005. — A report on the sanitary relations of drainage and water-supply in North Carolina and the south Atlantic States as affected by topographical and geological conditions.
Am. Assoc. Pub. Health, Repts. & Papers, v. 2 (1875): 348-356.
Discussion of the topographical, stratigraphical and lithological features as related to water-supply and drainage.
1006. — Report on the swamp lands [of North Carolina].
(In Repts. on the swamp lands belonging to the State Board of Education. Raleigh, Ashe & Gatling, 1883. pp. 5-23.)
Historical notes and descriptions on condition, surveys and improvements of the swamp lands located in Columbus, Hyde, Carteret, Onslow, Jones, Craven, Robeson, Tyrrell and other eastern counties.
1007. — [Rockingham and Nash county (Castalia) meteorites.]
(In his Report on the geological survey of North Carolina, v. 1. Raleigh, 1875. pp. 313-315.)
Brief notes on these meteorites with analyses by Genth and Smith.
1008. — Some peculiarities in the occurrence of gold in North Carolina.
Am. Inst. Min. Eng., Trans., v. 10 (1880): 475-476.
Discusses in a general way the distribution of gold in Moore, Gaston, Montgomery, Davidson and Randolph counties, describing its occurrence in the rock formations.
1009. — The State of North Carolina.
N. C. Agric. Exp. Station, Bull., July, 1883. 8 pp.
General description of the state and its resources.
1010. — The State of North Carolina.
(In What northern men say of North Carolina. . . edited by N. Dumont. Raleigh, The Observer, 1879. 22 cm. pp. 5-32.)
Describes physiographic features of the state, geological structure, mineral deposits, climate, forests, soils and agriculture.

1011. — Topography as affected by the rotation of the earth.
Am. Phil. Soc., Proc., v. 13 (1873): 190-192.
 Discusses topography and drainage of eastern North Carolina.
1012. — The "volcano" of Bald mountain.
Eng. & Min. Jour., v. 33 (1882): 131-132.
 Discusses disturbances supposed to be volcanic occurring on Bald mountain, a spur of the Blue Ridge.
1013. WASHINGTON CARUTHERS KERR. (Biographical sketch.)
Elis. Mit. Sci. Soc., Jour., v. 2 (1884): 8-9.
1014. KIMBALL, JAMES P.
 On the magnetite belt at Cranberry, North Carolina, and notes on the genesis of this iron ore in general in crystalline schists.
Am. Geol., v. 20 (1897): 299-312.
 Review by W. O. Crosby: *Am. Chem. Research, Rev.*, v. 4 (1898): 17.
 Describes deposits of magnetic iron ore at Cranberry, Mitchell county, topography of region, geological structure, ore belts, mines and mining operations. Analyses of ores by Edward Riley of London, A. A. Blair and Pattison & Stead of Middlesborough, England.
1015. KING, EDWARD.
 Among the mountains of western North Carolina.
Scribner's Monthly, v. 7 (1874): 513-544.
 Describes the mountains, physical characteristics of the country and mineral resources.
1016. KING, FRANCIS P.
 Preliminary report on the corundum deposits of Georgia.
Georgia Geol. Survey, Bull. 2. Atlanta, George W. Harrison, 1894. 133 pp. 24 cm.
 Contains historical notes on occurrence of corundum in North Carolina, and many notes and references to the North Carolina deposits. Quotes from F. A. Genth, C. D. Smith, E. W. Parker, C. W. Jenks and T. M. Chatard on this subject.
1017. KING, J. T.
 Dismal Swamp of North Carolina.
N. C. Univ. Mag., Ser. III, v. 1 (1878): 55-61.
 General description of the Great Dismal Swamp.
1018. KIRCHHOFF, CHARLES.
 Copper in North Carolina.
 (*In U. S. Geol. Survey, 20th Ann. Rept.*, pt. 6 (Met. Prod.). Wash., 1899. p. 186.)
 Describes development work just over the Virginia line.
1019. KLEIN, CARL.
 Ueber das Meteoreisen von Persimmon creek, bei Hot House. Cherokee county, Nord-Carolina.
K. preuss Akad. d. Wiss. Sitz., 1904, pt. 1, p. 572.
 Abstract by E. Cohen: *Geol. Centralblatt*, v. 5 (1904): 435.
 Describes magnetic iron meteorite of Persimmon creek.

1020. KNOWLTON, FRANK, HALL.

Description of a small collection of fossil wood from the triassic area of North Carolina.

(In U. S. Geol. Survey, 20th Ann. Rept., pt. 2. Wash., 1900. pp. 272-274.)

Describes material from Walnut cove, Germantown and Lockville. Collection made by I. C. Russell. Contains a few notes on the Emmons collection of fossil plants.

1021. KOENIG, GEORGE AUGUST.

On spessarite from Yancey county, North Carolina.

Acad. Nat. Sci. Phila., Proc., [v. 28] (1876): 53-54.

Description and analysis of this species of garnet.

1022. — On tantalite from Yancey county, North Carolina.

Acad. Nat. Sci. Phila., Proc., [v. 28] (1876): 39-40.

Abstract by C[h]ichester, A. B[ell]; Chem. Soc. (London) Jour., v. 32 (1877): 281.

Description and analysis of tantalite.

1023. KUHN, JOSEPH E.

Improvement of inland route from Norfolk harbor, Virginia, to Albemarle sound, North Carolina, through Currituck sound.

(In Chief of Eng. Rept., 1907, pt. 2. Appendix L 9, pp. 1213-1215.)

—— — (In Chief of Eng. Rept., 1908, pt. 2. Appendix L 9, pp. 1269-1271.)

1024. — Improvement of Meherrin river, North Carolina.

(In Chief of Eng. Rept., 1907, pt. 2. Appendix L 12, pp. 1217-1218.)

—— — (In Chief of Eng. Rept., 1908, pt. 2. Appendix L 12, p. 1273.)

1025. — Improvement of Perquimans river, North Carolina.

(In Chief of Eng. Rept., 1907, pt. 2. Appendix L 10, pp. 1215-1216.)

—— — (In Chief of Eng. Rept., 1908, pt. 2. Appendix L 10, pp. 1271-1272.)

1026. — Improvement of Roanoke river, North Carolina.

(In Chief of Eng. Rept., 1907, pt. 2. Appendix L 13, pp. 1218-1219.)

—— — (In Chief of Eng. Rept., 1908, pt. 2. Appendix L 13, pp. 1274-1275.)

1027. — Improvement of waterway from Norfolk, Virginia, to the sounds of North Carolina.

(In Chief of Eng. Rept., 1908, pt. 2. Appendix L 8, pp. 1268-1269.)

1028. KUNZ, GEORGE FREDERICK, *and* BASKERVILLE, CHARLES.
The action of radium, roentgen rays and ultra-violet light on minerals and gems.
Science, n. s., v. 18 (1903): 769-783.
Extracts: *Chem. News*, v. 89 (1904): 1-6.
Names minerals used in experiments: auelite and monazite from Alexander county; autunite and euxenite (in samarskite) from Mitchell county.
1029. KUNZ, GEORGE FREDERICK.
American gems and precious stones.
(*In* U. S. Geol. Survey, Min. Res., 1882. pp. 483-499.)
Refers to corundum sapphires and rubies found in Macon county; emeralds, garnets, spodumene and rutile in Alexander county; aquamarine, and smoky quartz in Burke and Alexander counties; zircon crystals in Burke county, and sagenite or "rutile in quartz" in Iredell and Alexander counties.
1030. ——— [Crystal of beryl from Alexander county. North Carolina.]
N. Y. Acad. Sci., Trans., v. 8 (1888): 2.
Notice of a green beryl crystal found in Alexander county.
1031. ——— Emeralds from North Carolina.
Am. Jour. Sci., Ser. III, v. 27 (1884): 153-154.
Notice: *Am. Nat.*, v. 18 (1884): 419.
Notice: *N. Y. Acad. Sci.*, Trans., v. 3 (1884): 38.
Review by C. A. Tenne: *Neues Jahr. f. Min.*, 1885, Bd. 2. Ref. p. 258.
Describes occurrence and appearance of emerald crystals from Stony Point, Alexander county.
1032. ——— Gems and precious stones of North America. New York, Scientific Pub. Co., 1890. 336 pp. 28 cm. Illus.
Contains descriptions of North Carolina minerals and mineral localities: gold and diamonds, pp. 17-21; corundum, pp. 40-48; zircon, pp. 104-105; rock crystal, pp. 108-109; quartz, pp. 112-113.
1033. ——— History of the gems found in North Carolina.
N. C. Geol. Survey, Bull. 12. Raleigh, E. M. Uzzell & Co., 1907. 60 pp. Plates. 26 cm.
Review by D. B. Sterrett: *U. S. Geol. Survey, Min. Res.*, 1907, pt. 2. p. 838.
Treats of production of gems in North Carolina. Historical sketch of gem mining, and detailed descriptions of all gem minerals found and their localities.
1034. ——— Meteoric iron from Colfax township, Rutherford county, North Carolina.
N. Y. Acad. Sci., Trans., v. 9 (1890): 197-198.
Abstract by B. H. Brough: *Chem. Soc. (London) Jour.*, v. 62, pt. 2 (1892): 1059.
Abstract by E. Cohen: *Neues Jahr. f. Min.*, 1892, Bd. 1. Min., p. 267.
Description of this meteorite, with analysis by Stuart W. Cramer.

1035. — Meteoric iron from Linnville mountain, North Carolina.
 Am. Jour. Sci., Ser. III, v. 36 (1888): 275-276.
 — — — *Elis. Mit. Sci. Soc., Jour., v. 7 (1890): 27-29.*
 Abstract by B. H. Brough: *Chem. Soc. (London) Jour., v. 56 (1889): 358.*
 Abstract by E. Cohen: *Neues Jahr. f. Min., 1889, Bd. 1. Ref. p. 446.*
 Description of this meteoric iron from Burke county, with analysis by J. Edward Whitfield.
1036. — [Meteorites from North Carolina.]
 (*In Am. Jour. Sci., Ser. III, v. 40 (1890): 320-322.*)
 — — — *Elis. Mit. Sci. Soc., Jour., v. 7 (1890): 29-30.*
 — — — *N. Y. Acad. Sci., Trans., v. 9 (1890): 194-196; 198.*
 Abstract by E. Cohen: *Neues Jahr. f. Min., 1891, Bd. 2. Ref. pp. 52-53; 1892, Bd. 1. Min., p. 267.*
 Describes meteoric stone which fell in Ferguson, Haywood county, in 1889, and meteoric iron found in Burke county near Bridgewater station. Analysis by F. P. Venable.
1037. — Mineralogical notes.
 Am. Jour. Sci., Ser. III, v. 36 (1888): 222-224.
 Abstract by B. H. Brough: *Chem. Soc. (London) Jour., v. 56 (1889): 24-25.*
 Abstract: *Am. Nat., v. 22 (1888): 1112.*
 Describes oligoclase found at the Hawk mica mine near Bakersville. Analysis by F. W. Clarke: Describes cyanite from Bakersville.
1038. — [Minerals from North Carolina.]
 N. Y. Acad. Sci., Trans., v. 3 (1883): 12; 53.
 Describes a supposed emerald found in Guilford county, and two specimens of corundum, one probably the most perfect star sapphire ever found in the United States.
1039. — Native silver in North Carolina.
 Am. Jour. Sci., Ser. IV, v. 7 (1899): 242-243.
 Describes deposit of native silver found in 1898 at Silver Hill, Davidson county, and gives assay by A. R. Ledoux.
1040. — A new locality of true emeralds.
 Am. Jour. Sci., Ser. III, v. 48 (1894): 429-430.
 Notice of discovery of emeralds on Big Crabtree mountain near Bakersville, Mitchell county.
1041. — A North Carolina diamond.
 Am. Jour. Sci., Ser. III, v. 34 (1887): 490.
 — — — *Science, v. 10 (1887): 168.*
 Abstract by C. A. Tenne: *Neues Jahr. f. Min., 1892, Bd. 2. Min., p. 211.*
 Reports discovery of a diamond in Dysartville, McDowell county.
1042. — Precious stones in the United States.
 Harper's Mag., v. 76 (1887): 97-106.
 Contains brief account of the gem stones found in North Carolina localities.

1043. — Production of precious stones in North Carolina.
 (In U. S. Geol. Survey, Min. Res., 1883-1884. Wash., 1885. pp. 723-782.)
- — (In U. S. Geol. Survey, Min. Res., 1885. Wash., 1886. pp. 437-442.)
 Contains notes on mining for emeralds in Alexander county, and on original discovery of corundum gems *in situ* by C. W. Jenks in Macon county.
- — (In U. S. Geol. Survey, Min. Res., 1886. Wash., 1887. pp. 595-598.)
- — (In U. S. Geol. Survey, Min. Res., 1887. Wash., 1888. pp. 555; 559; 560; 562; 563.)
 Notes on occurrence of beryl and cyanite in Mitchell county, spodumene and tourmaline in McDowell county, and oligoclase near Bakersville.
- — (In U. S. Geol. Survey, Min. Res., 1888. Wash., 1890. pp. 580-581.)
- — (In U. S. 11th Census Rept., Min. Indust., 1890. Wash., 1892. pp. 669-677.)
- — U. S. Census, Bull. No. 49. Wash., 1891. 8 pp.
- — (In U. S. Geol. Survey, Min. Res., 1892. Wash., 1893. pp. 756-758; 760; 765-766; 768-770; 778; 780.)
 Contains historical notes on corundum localities in Macon county.
- — (In U. S. Geol. Survey, Min. Res., 1893. Wash., 1894. pp. 693; 697.)
- — (In U. S. Geol. Survey, 16th Ann. Rept., pt. 4. (Non-metallic Prod.) Wash., 1895. pp. 595; 599; 600; 601.)
- — (In U. S. Geol. Survey, 17th Ann. Rept., pt. 3. Wash., 1896. pp. 895-926.)
- — (In U. S. Geol. Survey, 18th Ann. Rept., pt. 5. (Non-metallic Prod.) Wash., 1897. pp. 1197; 1203; 1204; 1205.)
- Abstract: Pop. Sci. Month., v. 53 (1898): 716.
 Describes prospecting for rubies in Macon county, occurrence of emeralds at Bakersville, green tourmaline near Waynesville, olivine and rutilated quartz in Jackson county and smoky quartz in Surry county.
- — (In U. S. Geol. Survey, 20th Ann. Rept., pt. 6. (Non-metallic Prod.) Wash., 1899. pp. 569-570; 577; 584-585; 586; 588.)
 Notes on occurrence of rhodolite in Macon county, zircon crystals in Iredell county, and workings for beryl in Mitchell, Yancey, Macon and Iredell counties.
- — (In U. S. Geol. Survey, 21st Ann. Rept., pt. 6. (Non-metallic Prod.) Wash., 1901. pp. 432-436; 450.)
 Describes occurrence of ruby corundum in Macon county.
- — (In U. S. Geol. Survey, Min. Res., 1900. Wash., 1901. pp. 749; 756; 758.)
- — (In U. S. Geol. Survey, Min. Res., 1901. Wash., 1902. pp. 729; 738; 741; 744; 749; 751; 762; 763.)
- — (In U. S. Geol. Survey, Min. Res., 1902. Wash., 1903. pp. 813; 837; 852.)

- — (In U. S. 12th Census, Spec. Rept., Mines & Quarries, 1902. Wash., 1905. pp. 1043-1058.)
- — (In U. S. Geol. Survey, Min. Res., 1903. Wash., 1904. pp. 924; 935-937; 948; 950.)
Extract: Mining World, v. 21 (1904): 566.
Mentions corundum specimens collected by R. T. Brumby from Clubb mountain, Lincoln county, in 1852.
- — (In U. S. Geol. Survey, Min. Res., 1905. Wash., 1906. pp. 1335; 1340; 1345.)
Yearly reports of gem mining and production.
1044. — [Rare minerals.]
Science, v. 12 (1888): 23.
Describes occurrence of monazite and zircon in Burke, Alexander, Rutheford, Polk, Henderson, McDowell and Mecklenburg counties.
1045. — Some remarkable gems.
N. Y. Acad. Sci., Trans., v. 5 (1886): 131-133.
— — Science, v. 7 (1886): 399.
Notice of a ruby cut en cabochon from Franklin, Macon county.
1046. — [Tiffany exhibit prepared for Paris exposition.]
N. Y. Acad. Sci., Trans., v. 8 (1889): 160-161.
Names minerals from North Carolina in the exhibit.
1047. L., J.
King's Mountain, North Carolina, gold mine.
Eng. & Min. Jour., v. 54 (1892): 75.
Criticizes article on "A southern gold mine" (Eng. & Min. Jour., v. 54 (1892): 34.)
1048. LAIDLEY, T. T. S.
Timber and minerals of the Deep River country, North Carolina.
U. S. 34th Cong., 1st Sess. Ex. Doc. No. 109. Wash., 1856. 5 pp.
Report of a visit to the Deep River area in Moore, Chatham and Randolph counties, describing the mineral resources and mining operations.
- LANEY, FRANCIS BAKER.
* The building and ornamental stones of North Carolina.
See Watson and Laney, No. 1829.
1049. — The Gold Hill mining district of North Carolina. A detail of Piedmont Plateau geology.
A thesis presented to Yale University for the degree of Doctor of Philosophy, 1908. Map.
A detailed geologic and petrographic study of the district. Contains historical sketch and list of literature relating to gold and copper deposits in the state. To be published by the North Carolina Geological Survey as Bull. 21.
1050. — Preliminary report of geological survey of the Eagle creek and a portion of the Hazel creek watersheds.
MSS. N. C. Geol. Survey, Asheville, N. C., 1906. 11 pp.
Commercial report on the area.

1051. LANMAN, CHARLES.

Letters from the Alleghany mountains. New York, George P. Putnam, 1849. 198 pp. 20 cm.

A series of letters written among the mountains of western North Carolina and Georgia, containing desultory notes on the geology, topography, climate, forests, minerals and mineral springs of the region. The addenda consist of letters from T. L. Clingman, C. U. Shepard and Elisha Mitchell. (*For annotations of these, see under respective authors.*)

1052. ——— Novelties of southern scenery.

Appleton's Jour., v. 2 (1869): 253-259.

Popular sketch of mountain scenery in western North Carolina, giving a few altitudes.

1053. LAPHAM, J. E. and LYMAN, WEBB S.

Soil survey of Perquimans and Pasquotank counties, North Carolina.

(*In* U. S. Dept. Agric., Field Operations, Bureau of soils, 7th Rept., 1905. Wash., 1907. pp. 271-288. Map.)

Describes climate, geology and physiography of this area, and gives table of monthly annual temperature and precipitation. Describes drainage systems and gives analyses of soils.

1054. LAPHAM, J. E. and MEEKER, F. N.

Soil survey of the Asheville area, North Carolina.

(*In* U. S. Dept. Agric., Field Operations, Bureau of Soils, 5th Rept., 1903. Wash., 1905. pp. 279-297. Map.)

Describes physiography, geology and climate, the river basins, varieties of soils found, and gives analyses of these.

1055. LAWSON, JOHN.

A new voyage to Carolina: containing the exact description and natural history of that country; together with the present state thereof. . . London, 1709. 258 pp. Plates. 21 cm. Map.

—— ——— (*In* Stevens, John. A new collection of voyages and travels into several parts of the world, none of them ever before printed in English. London, 1711. 20 cm. pp. 6-60.) (A German translation of this was published in 1712.)

—— ——— The history of Carolina: Containing the natural history of that country . . . London, Taylor & Baker, 1714. 258 pp. Plates. Map.

—— ——— Reprint: Raleigh, Perry, Strother & Marcom, 1860. 390 pp. 20 cm.

—— ——— Reprint: History of North Carolina. Charlotte, Observer print. house, 1903. 171 pp. 28 cm. Map.

Contains brief description of early North Carolina: the inlets and havens; soil, climate and products.

1056. LEA, ISAAC.

Further notes on "inclusions" in gems.

Acad. Nat. Sci. Phila., Proc., [v. 28] (1876): 98-107.

Describes inclusions in specimens of garnet and corundum from North Carolina.

1057. — Notes on microscopic crystals included in some minerals.
Acad. Nat. Sci. Phila., Proc., [v. 21] (1869): 4; 119-121.
Describes acicular crystals observed in a thin fractured piece of a large garnet from North Carolina.
1058. — [Remarks on the age of the new Red Sandstone.]
Acad. Nat. Sci. Phila., Proc., [v. 10] (1858): 90-92.
Brief summary of the opinions of others and a reaffirmation of his own belief in the Permian age of the Red Sandstone formation of North Carolina.
1059. LECONTE, JOHN.
[Observations on thermal belts of North Carolina.]
Science, v. 1 (1883): 278.
Describes "frostless zones" from observations made at Flat rock, Henderson county.
1060. LEDOUX, ALBERT, R[ICHARD] EID.
[Analyses of marls and mineral waters of North Carolina.]
(In N. C. Agric. Exp. Sta., Rept. 1879. Raleigh, The Observer, 1879. 23 cm. pp. 122-126.)
Contains eleven analyses of marls from Jones, Wayne and Greene counties, and five analyses of mineral water from Iredell and Alamance counties and localities near Chapel Hill.
1061. — Minerals and ores from North Carolina.
(In N. C. Agric. Exp. Sta., Rept. 1879. Raleigh, The Observer, 1879. 23 cm. pp. 138-139.)
Analyses of: green feldspar from Cumberland county; gummitic lignite, "potash rock," from Raleigh; manganese ore from Warm Springs; gold and copper ore from Alamance county, and dolomitic limestones from Macon county.
1062. — Tin in North Carolina.
Eng. & Min. Jour., v. 48 (1889): 521-522.
Describes exploration for tin at King's Mountain, geological occurrence of the ore, and its associated minerals.
1063. — The Union copper mines, Gold Hill, N. C.
Eng. & Min. Jour., v. 69 (1900): 167-170.
Describes the gold and copper bearing belt at Gold Hill, Rowan county, the veins and ores, mines and mining operations.
1064. LEEDS, STEPHEN P. and PARTZ, ANGUS D.
Charter and by-laws of the Karriker gold and copper company; also reports of Stephen P. Leeds, and Angus D. Partz. Jersey City, J. Raymond, 1855. 15 pp. 22 cm.
Description of this mining property located in Cabarrus county.
1065. LEEDS, STEPHEN P.
Gold ores and their workings.
Min. Mag., Ser. I, v. 7 (1856): 23-32; 265-275; 344-356; 445-453.
Describes ores in a general way, and gives detailed notes on methods of working. Many references to North Carolina mines as examples of mining methods.
1066. — North Carolina gold mines.
Min. Mag., Ser. I, v. 5 (1855): 431-433.
Brief account of five months spent in studying the gold mines of the state.

1067. — Notes on the gold regions of North and South Carolina. . .
 Min. Mag., Ser. I, v. 2 (1854): 27-34; 357-369.
 Topographical, geological, climatic and economical notes on the gold region, discussing the mines and mining possibilities.
1068. — Report on the Rhymer gold mine, Rowan county, North Carolina.
 Min. Mag., Ser. I, v. 2 (1854): 543-545.
 Describes this mine located in Rowan county about eight miles from the Gold Hill mine.
1069. — and PENMAN, JOHN E.
 Reports on the Rudisil gold and copper mine at Charlotte, Mecklenburg county, North Carolina. New York, McSpedon & Baker, 1854. 12 pp. 21 cm.
1070. LEEDS, STEPHEN P.
 The Rudisil gold and copper mine of North Carolina.
 Min. Mag., Ser. I, v. 2 (1854): 516-518.
 Description of this mine near Charlotte, Mecklenburg county.
1071. LEIDY, JOSEPH.
 {Biotite from North Carolina.}
 Acad. Nat. Sci. Phila., Proc., [v. 34] (1882): 261.
 Describes plates of muscovite containing hexagonal plates of biotite.
1072. — {*Dromatherium silvestre*.}
 Acad. Nat. Sci. Phila., Proc., [v. 22] (1870): 9.
 Remarks on apparent absence of a condyle in mandible of *Dromatherium silvestre*.
1073. — The extinct mammalian fauna of Dakota and Nebraska. . .
 Synopsis of the mammalian remains of North America.
 Acad. Nat. Sci. Phila., Jour., Ser. 2, v. 7, Phila., 1869. 472 pp. 34 cm. Plates.
 Names and describes several North Carolina forms.
1074. — {Fossils from Chatham county, North Carolina.}
 Acad. Nat. Sci. Phila., Proc., [v. 16] (1859): 162.
 Remarks on *Dromatherium silvestre*, *Clepsysaurus*, *Rutiodon* and *Palæosaurus*.
1075. — Notice of corundum.
 Acad. Nat. Sci. Phila., Proc., [v. 24] (1872): 19.
 Abstract: Ann. Record Sci. & Indust., 1872. p. 117.
 Describes corundum specimens from Franklin, Macon county.
1076. — Notice of some remains of extinct vertebrated animals.
 Acad. Nat. Sci. Phila., Proc., [v. 8] (1856): 163-165.
 Proposes name *Compsosaurus priscus* for remains of a saurian from the Chatham coal field.
1077. — Notices of remains of extinct vertebrated animals discovered by Prof. E. Emmons.
 Acad. Nat. Sci. Phila., Proc., [v. 8] (1856): 255-256.
 — — — Am. Jour. Sci., Ser. II, v. 23 (1857): 271-272. .
 Describes: *Orycterocetus cornutideus*; *Drepanodon impar*; *Platyonodon priscus*; *Onchosaurus perplexus*; *Dictyocephalus elegans*; *Ischritza antiqua* from the miocene.

1078. ——— Remains of mastodon and horse in North Carolina.
 Acad. Nat. Sci. Phila., Proc., [v. 23] (1871): 113.
 Describes specimen of *Mastodon americanus* found in Lenoir county, molar tooth of same species, and upper molar tooth of *Equus complicatus* found in Pitt county.
1079. ——— Remarks on *Palæotrochus*.
 Acad. Nat. Sci. Phila., Proc., [v. 11] (1859): 150.
 Considers *Palæotrochis* a coral.
1080. LESLEY, J. PETER.
 Note on the titaniferous iron ore belt near Greensboro, North Carolina. Phila., M'Calla & Stanley, 1871. 34 pp. 22 cm.
 ——— Am. Phil. Soc., Proc., v. 12 (1871): 139-158.
 Abstract: Jahresber. d. Chem., 1871, p. 1163.
 Describes geological structure of this district in Guilford and Rockingham counties, outcropping ore beds and relations of the ores to the rocks. Analyses of the ores by Genth, Buck, Britton and Fesquet.
1081. ——— [The primary iron ores of North Carolina.]
 (In his Iron Manufacturer's Guide. New York, John Wiley. London, Trubner & Co. 1859. 23½ cm. pp. 446-452.)
 Descriptions of the iron ores taken almost wholly from Emmons' reports. Enumerates furnaces and bloomery forges in past and present operation, and gives notes on iron manufacture in the state from first discovery of the ores.
1082. LETHAM, JOHN.
 Historical and descriptive review of the State of North Carolina. Charleston, S. C., Empire Publishing Company, 1885. 2 vols. 24 cm. Maps.
 Notes on conditions, resources and industries of the state
1083. LEWIS, HENRY CARVILLE.
 Gold from North Carolina.
 Acad. Nat. Sci. Phila., Proc., [v. 35] (1883): 301.
 ——— Am. Nat., v. 18 (1884): 66.
 Describes gold nuggets from Montgomery county.
1084. ——— The minerals of Surry county, North Carolina.
 Acad. Nat. Sci. Phila., Proc., [v. 32] (1880): 280.
 Gives a list of minerals found near Dobson, Surry county
1085. ——— The optical characters of some micas.
 Acad. Nat. Sci. Phila., Proc., [v. 32] (1880): 244-251.
 Contains optical determination of biotite, damourite, maconite and calsageeite from Macon county, and muscovite from Buncombe county.
1086. ——— Tin from North Carolina.
 Am. Nat. v. 18 (1884): 620; 1040.
 Notice of discovery of tin at King's mountain, Shelby county.
1087. ——— Tin in North Carolina.
 Acad. Nat. Sci. Phila., Proc., [v. 32] (1880): 253.
 Describes a doubtful specimen of tin ore from Surry county.

1088. LEWIS, JOSEPH VOLNEY.

Corundum and the basic magnesian rocks of western North Carolina.

N. C. Geol. Survey, Bull. 11. Winston, M. I. & J. C. Stewart, 1896. 107 pp. 24 cm. Plates. Maps.

Notice: Am. Nat., v. 30 (1896): 1038-1039.

Notice: Am. Jour. Sci., Ser. IV, v. 11 (1900): 92.

Summary: Elis. Mit. Sci. Soc., Jour., v. 12 (1895): 25-37.

Abstract by author: Jour. of Geol., v. 15 (1907): 85-91.

Abstract by author: Geol. Centralblatt, v. 8 (1906): 487-492.

Describes geologic structure of the corundum belt which includes nearly all the western counties, character and distribution of the peridotites, mode of occurrence of the corundum, mines and prospects, and gives historical account of the corundum mines in Clay, Macon, Jackson, Madison and Iredell counties.

— Corundum and the peridotites of western North Carolina.

See Pratt and Lewis, No. 1469.

1089. — Corundum of the Appalachian crystalline belt.

Am. Inst. Min. Eng., Trans., v. 25 (1895): 852-906.

Abstract by Leonard J. Spencer: Chem. Soc. (London)

Jour., v. 76, pt. 2 (1899): 561-562.

Treats of corundum in general and gives historical notes on its discovery in western North Carolina. Describes geology of corundum region, varieties and mode of occurrence of the corundum, and gives several rock analyses. Describes the mines and mining methods, and gives a list of literature on the corundum localities of the Appalachian region.

1090. — Notes on building and ornamental stone.

(In N. C. Geol. Survey, 1st Biennial Rept., 1891-1892.

Raleigh, Josephus Daniels, 1893. pp. 57-103.)

Descriptions of the quarries in the state, names of owners, location, and many analyses of stone. Discusses granite, sandstone and other stones. Gives list of specimens of building and ornamental stone in the collection at the State museum at Raleigh.

1091. — Origin of the peridotites of the southern Appalachians.

Elis. Mit. Sci. Soc., Jour., v. 12, pt. 2 (1895): 24-37.

Describes peridotite belt in western North Carolina, and presents evidence to show that the peridotites are plutonic igneous rocks.

1092. LEWIS, ZECHARIAH.

Letter on subterranean wall on the Yadkin in North Carolina.

Med. Repos., v. 5 (1802): 397-407.

A reply to letter from Dr. Woodhouse in which the latter criticizes Mr. Lewis' opinion that this wall is of artificial origin.

1093. — Remarks on a subterranean wall in North Carolina.

Med. Repos., v. 4 (1801): 227-234.

Description of this wall situated in Rowan county, about 12 miles northeast of Salisbury, presenting evidence in favor of its artificial origin.

1094. LIEBER, OSCAR MONTGOMERY.

A contribution to the geologic chronology of the southern Alleghanies.

Am. Assoc. Adv. Sci., Proc., 12th meet. (1858): 227-230.

Discusses age of the crystalline slates of the southern Alleghanies.

1095. — A fragmentary contribution to the vein geology of the southern states.

Min. & Stat. Mag., v. 10 (1858): 108-112.

Brief description of Brigg's gold mine located in Gaston county.

1096. — Itacolumite and its associates . . . a contribution to the geologic chronology of the southern Alleghanies. Supplementary to Repts. 1, 2 and 3, on the Geol. Survey of South Carolina. Bound with Rept. 3. Columbia, S. C., R. W. Gibbs, 1859. 223 pp. 24 cm.

— — (In Cotta, Bernhard von. Gangstudien oder Beiträge zur Kenntniss der Erzgange, v. 3 (1860): 309-507.)

Discusses Itacolumite and various types of gold occurrence illustrating by mode of occurrence in various mines in the Carolinas, among those in North Carolina being the Brigg's, Reed, Gold Hill, Phoenix, Karriker and Honeycutt mines.

1097. — Mineral resources of South Carolina.

Min. Mag., Ser. 1, v. 9 (1857): 9-30; 105-121; 355-358.

Describes many North Carolina mines and veins by way of comparison with those of South Carolina. Includes the Reed, Gold Hill and Huey mines.

1098. — [Notes on North Carolina minerals and mines.]

(In his Report on the Geol. Survey of South Carolina, First Ann. Rept. to Gen. Assem. . . 1856. 24 cm. pp. 41-99.)

Notes on mineral veins of North Carolina at different localities, with references to many of the deposits and mines including brief descriptions of the Reed, Gold Hill, Huey and Hiatt mines.

1099. — Some remarks on the metalliferous veins of the South.

Min. Mag., Ser. I, v. 5 (1855): 306-312.

Discusses the relations of the various minerals in the veins to each other—citing many examples, a few of which are in North Carolina, the McCulloch and Vanderburg mines.

1100. — Ueber das Goldvorkommen in Nord-Carolina.

(In Cotta, B. von Gangstudien oder Beiträge zur Kenntniss der Erzgange, v. 3 (1860): 253-255.)

Describes occurrence of gold and gives notes on the Vanderburg, Huey and Gold Hill mines.

1101. LIMBER, JOHN.

Fossil remains in Lenoir county, North Carolina.

Am. Jour. Sci., Ser. I, v. 40 (1841): 405.

Extract: Annales des Sci. Géol., 1842. p. 117.

Describes formations between the Neuse and Northeast rivers, which contain shells and bones.

1102. LINDGREN, WALDEMAR.

Gold and silver in North Carolina in 1905.

(In U. S. Geol. Survey, Min. Res., 1905. Wash., 1906. pp. 300-302.)

Brief notes on the gold belts, mines and mining industry of the state.

1103. — Orthoclase as gangue material in a fissure vein.

Am. Jour. Sci., Ser. IV, v. 5 (1898): 418-420.

Mentions orthoclase as noted by Genth, occurring in minute crystals at the Silver Hill and Steele mines.

1104. LINDSEY, THOMAS H.

Lindsey's guidebook to western North Carolina. . . Asheville, Randolph-Kerr Print. Co., 1890. 92 pp. 15½ cm.

General account of scenery, resources and climate of western North Carolina.

LOCKHART, L. B.

The action of radium emanations on gems.

See Baskerville and Lockhart, No. 70.

LOEW, OSCAR.

On the earth contained in the zircons of North Carolina.

See Endemann and Loew, No. 572.

1105. LONSDALE, W.

Account of twenty-six species of polyparia obtained from the eocene tertiary formation of North America.

Geol. Soc. London, Quart. Jour., v. 1 (1845): 509-533.

Seven varieties of fossil corals found at Wilmington are named and described. (Descriptions of four of these species are reprinted in Gabb, W. M., and Horn, G. H., Acad. Nat. Sci. Phila., Jour., Ser. II, v. 5 (1862): 115; 119; 121.)

1106. LUCAS, EUGENE, W. VAN C.

Examination and survey for Harbor of Refuge, Cape Lookout, North Carolina.

(In Chief of Eng. Rept., 1900, pt. 3. Appendix N 16, pp. 1829-1837.)

—— — U. S. 56th Cong., 1st Sess., 1900. House Doc. No. 80. 8 pp. Map.

1107. — Examination and survey of Scuppernong river, North Carolina.

(In Chief of Eng. Rept., 1901, pt. 2. Appendix L 18, pp. 1541-1545.)

—— — U. S. 56th Cong., 2d Sess., 1901. House Doc. No. 131. 6 pp.

1108. — Examination and survey of Trent river, North Carolina.

(In Chief of Eng. Rept., 1901, pt. 2. Appendix L 19, pp. 1545-1552.)

—— — U. S. 56th Cong., 2d Sess., 1900. House Doc. No. 121. 8 pp.

1109. — Examination and survey of waterway from South Mills, North Carolina. to and including Ocracoke and Beaufort inlets.
(*In Chief of Eng. Rept.*, 1901, pt. 2. Appendix L 17, pp. 1511-1540.)
—— ——— U. S. 56th Cong., 2d Sess., 1901. House Doc. No. 202. 30 pp. Map.
1110. — Examination and survey of Wilmington harbor and Cape Fear river, North Carolina.
(*In Chief of Eng. Rept.*, 1901, pt. 2. Appendix L 20, pp. 1552-1569.)
—— ——— U. S. 56th Cong., 2d Sess., 1901. House Doc. No. 180. 18 pp. Map.
1111. — Improvement of Black river, North Carolina.
(*In Chief of Eng. Rept.*, 1899, pt. 2. Appendix M 11, pp. 1502-1504.)
—— ——— (*In Chief of Eng. Rept.*, 1900, pt. 3. Appendix N 11, pp. 1813-1814.)
—— ——— (*In Chief of Eng. Rept.*, 1901, pt. 2. Appendix L 11, pp. 1499-1500.)
Reports of progress.
1112. — Improvement of Cape Fear river, North Carolina, above Wilmington.
(*In Chief of Eng. Rept.*, 1900, pt. 3. Appendix N 13, pp. 1816-1818.)
—— ——— (*In Chief of Eng. Rept.*, 1901, pt. 2. Appendix L 13, pp. 1502-1503.)
Reports of progress.
1113. — Improvement of Cape Fear river, North Carolina, at and below Wilmington.
(*In Chief of Eng. Rept.*, 1899, pt. 2. Appendix M 14, pp. 1507-1515.)
—— ——— (*In Chief of Eng. Rept.* 1900, pt. 3. Appendix N 14, pp. 1818-1826.)
—— ——— (*In Chief of Eng. Rept.*, 1901, pt. 2. Appendix L 14, pp. 1504-1509.)
Reports of progress.
1114. — Improvement of Contentnea creek, North Carolina.
(*In Chief of Eng. Rept.*, 1899, pt. 2. Appendix M 4, pp. 1492-1493.)
—— ——— (*In Chief of Eng. Rept.*, 1900, pt. 3. Appendix N 4, pp. 1801-1802.)
—— ——— (*In Chief of Eng. Rept.*, 1901, pt. 2. Appendix L 4, pp. 1488-1490.)
Reports of progress.

1115. — Improvement of Fishing creek, North Carolina.
(In Chief of Eng. Rept., 1899, pt. 2. Appendix M 2, pp. 1489-1490.)
 — — — *(In Chief of Eng. Rept., 1900, pt. 3. Appendix N 2, pp. 1896-1898.)*
 — — — *(In Chief of Eng. Rept., 1901, pt. 2. Appendix L 2, pp. 1485-1486.)*
Reports of progress.
1116. — Improvement of harbor at Beaufort, North Carolina.
(In Chief of Eng. Rept. 1899, pt. 2. Appendix M 8, pp. 1498-1499.)
 — — — *(In Chief of Eng. Rept., 1900, pt. 3. Appendix N 8, pp. 1808-1810.)*
 — — — *(In Chief of Eng. Rept., 1901, pt. 2. Appendix L 8, pp. 1495-1496.)*
Reports of progress.
1117. — Improvement of Neuse river, North Carolina.
(In Chief of Eng. Rept., 1900, pt. 3. Appendix N 6, pp. 1804-1806.)
 — — — *(In Chief of Eng. Rept., 1901, pt. 2. Appendix L 6, pp. 1492-1493.)*
Reports of progress.
1118. — Improvement of Northeast (Cape Fear) river, North Carolina.
(In Chief of Eng. Rept., 1900, pt. 3. Appendix N 12, pp. 1815-1816.)
 — — — *(In Chief of Eng. Rept., 1901, pt. 2. Appendix L 12, pp. 1500-1501.)*
Reports of progress.
1119. — Improvement of Ocracoke inlet, North Carolina.
(In Chief of Eng. Rept., 1899, pt. 2. Appendix M 1, pp. 1487-1489.)
 — — — *(In Chief of Eng. Rept., 1900, pt. 3. Appendix N 1, pp. 1793-1796.)*
 — — — *(In Chief of Eng. Rept., 1901, pt. 3. Appendix L 1, pp. 1484-1485.)*
Reports of progress.
1120. — Improvement of Pamlico and Tar rivers, North Carolina.
(In Chief of Eng. Rept., 1899, pt. 2. Appendix M 3, pp. 1490-1492.)
 — — — *(In Chief of Eng. Rept., 1900, pt. 3. Appendix N 3, pp. 1798-1800.)*
 — — — *(In Chief of Eng. Rept., 1901, pt. 2. Appendix L 3, pp. 1487-1488.)*
Reports of progress.
1121. — Improvement of Town creek, Brunswick county, North Carolina.
(In Chief of Eng. Rept., 1900, pt. 3. Appendix N 15, pp. 1827-1828.)

- ——— (In Chief of Eng. Rept., 1901, pt. 2. Appendix L 15, pp 1509-1511.)
Reports of progress.
1122. ——— Improvement of Trent river, North Carolina.
(In Chief of Eng. Rept., 1900, pt. 3. Appendix N 5, pp. 1802-1804.)
—— ——— (In Chief of Eng. Rept., 1901, pt. 2. Appendix L 5, pp. 1490-1491.)
Reports of progress.
1123. ——— and WINSLOW, E. EVELETH.
Preliminary examination of Carrot Island slough and Lewis Thoroughfare, North Carolina.
U. S. 58th Cong., 2d Sess., 1904. House Doc. No. 210. 7 pp.
1124. LYELL, CHARLES.
[Cretaceous in North Carolina.]
(In On the tertiary formations . . . Geol. Soc. London, Proc., v. 3, pt. 2 (1842): 736.)
Abstract: Neues Jahr. f. Min., 1844. pp. 222; 223.
Describes occurrence of cretaceous and eocene and finds no evidence of a transition between them. Describes organic remains from Wilmington.
1125. ——— [Fossils from North Carolina.]
(In Notes on the cretaceous strata . . . Geol. Soc. Quart. Jour., v. 1 (1845): 55-60.)
—— ——— Am. Jour. Sci., Ser. I, v. 47 (1844): 213-214.
Mentions following cretaceous fossils from Lewis' creek: *Elasmmites mucronatus*; *Ostrea vesicularis*; *Ostrea subspatulata* and *Cellepora tubulata*.
1126. ——— Observations on the white limestone and other eocene or older tertiary formation of Virginia, South Carolina and Georgia.
Geol. Soc. Quart. Jour., v. 1 (1845): 429-442.
Describes this formation near Wilmington and gives list of shells found at this locality.
1127. ——— On the geological position of the *Mastodon giganteum* and associated fossil remains at Big Bone Lick, Ky., and other localities in the United States and Canada.
Geol. Soc. London, Proc., v. 4, No. 92 (1844): 36-39.
—— ——— Am. Jour. Sci., Ser. I, v. 46 (1844): 320-323.
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Abstract: Neues Jahr. f. Min., 1848: 734-736.
Describes thirty species of fossil shells from miocene strata at Wilmington.

1129. — Travels in North America in the years 1841-1842. New York, Wiley & Putnam; London, J. Murray, 1845. Ed. 2. London, 1855. 2 vols. Maps.
 Chapters VII and X, Vol. 1, contain observations on North Carolina localities, the Pine Barrens from Norfolk, Va., to Weldon, N. C., the Dismal Swamp, and Wilmington.
1130. LYMAN, BENJAMIN, SMITH.
 Age of the Newark brownstone.
Am. Phil. Soc., Proc., v. 33 (1894): 5-10.
 Discusses geological age.
1131. — Some new red horizons.
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Abstracts: Jour. of Geol., v. 2 (1894): 644-645.
Abstracts: Am. Nat., v. 28 (1894): 878-879.
 Reviews evidence on which the red horizons east of the Blue Ridge are ascribed to the mesozoic. Describes outcrops in North Carolina and gives account and list of fossils found in the state.
1132. LYMAN, CHESTER, SMITH.
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- LYMAN, WEBB S.
 Soil survey of Perquimans and Pasquotank counties, North Carolina.
See Lapham and Lyman, No. 1053.
1133. LYON, EDWARD WEST.
 The progress of gold mining in North Carolina.
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 Historical notes on gold mining naming many of the early mines and mining methods. Describes the gold belts, geological occurrence and mineralogical character of the ores, the principal mines and mining methods.
1134. "MAC."
 Our southern gold mines.
Eng. & Min. Jour., v. 26 (1878): 134.
 Notes on Rudisil and McGinn mines, Mecklenburg county, and King's Mountain mine.
1135. McCALLIE, S. A.
 The Ammons Branch mine.
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1136. MCCARTHY, GERALD.
 Ground and deep waters of North Carolina.
N. C. Board of Health, Bull., v. 22, (1907): 1-14.
 Describes geologic occurrence of waters in the state, methods of digging wells, cost of boring, with analyses of samples from public water supplies.

1137. McCASKEY, HIRAM, DRYER.
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(In U. S. Geol. Survey, Min. Res., 1906. Wash., 1907.
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Notes on mines within the gold belts, the workings and
production for 1906 and 1907.
1138. MCCOY, HERBERT N. and ROSS, W. H.
The relation between the radio-activity and the composition
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Describes experiments in which monazite from McDowell
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1139. McDOWELL, SILAS.
Belt of no frost, or thermal belt.
(In Commissioner of Patents, Rept. 1861. Agriculture.
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Describes thermal belt on the mountains in Macon county.
1140. McEACHERN, D. P.
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accurate description of our lands, timbers, waterpower. . .
Lumberton, N. C. W. W. McDiarmid, 1884. 20 pp. 23
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1141. McELRATH, THOMAS.
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Brief notes on gold region in Burke, Rutherford and Mc-
Dowell counties, and on the hydraulic system of mining
introduced into the state by Dr. M. H. Van Dyck.
1142. ——— Notes on gold mining operations in North Carolina.
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Briefly describes workings of the Wilkinson, Bunker Hill,
Collins and Jamestown mines in Burke, Rutherford and
McDowell counties, respectively.
1143. McFARLAND, WALTER.
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(In Chief of Eng., Rept., 1876, pt. 1. Appendix P 6, pp.
718-724.)
1144. ——— Examination of the French Broad river, North Carolina,
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(In Chief of Eng. Rept., 1875, pt. 1. Appendix R 10, pp.
817-821.)
Describes the country in Transylvania county through
which this river flows and its natural resources.

1145. — Examination of the Little Tennessee river from the Chilhowee mountains to the Georgia line in Macon county, North Carolina.
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 — — — *(In U. S. 44th Cong., 1st Sess., 1876. House. Doc. No. 141. pp. 2-4.)*
1146. MACFARLANE, JAMES.
 Coal regions of North Carolina.
(In his Coal regions of America, their topography, geology and development. New York, Appleton, 1873. 24 cm. pp. 516-528.)
Describes Deep and Dan River coal fields, giving extracts from Emmons and Johnson. Analyses of the coal.
1147. — Geological formations in North Carolina.
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Contains sketch of the geology of state taken from Kerr's reports. Article revised and enlarged for second edition by H. M. Chance. Other mentions of North Carolina formations on pp. 11; 41-42.
1148. MCGEE, W J
 The Lafayette formation.
(In U. S. Geol. Survey, 12th Ann. Rept., pt. 1. Wash., 1891. pp. 347-521.)
Discussion of the Lafayette formation of the Atlantic coastal plain, with many general references to the formation in North Carolina, with particular description, pp. 485-486.
1149. — The southern extension of the Appomattox formation.
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1150. — Three formations of the Middle Atlantic slope.
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Abstract: Nature, v. 38 (1888): 91; 190.
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Describes occurrence of Potomac and Appomattox formations in North Carolina.
1151. MACKENZIE, ALEXANDER J.
 Report of a board of engineers on examination and survey for waterway from Norfolk, Va., to Beaufort inlet, North Carolina.
U. S. 59th Cong., 21st Sess., 1907. House Ex. Doc. No. 84. 20 pp. Map.

1152. ——— [River and harbor improvements in North Carolina.]
 (In Chief of Eng. Rept., 1904, pt. 1. Wash., 1904. pp.
 223-245.)
 —— ——— (In Chief of Eng. Rept., 1906, pt. 1. Wash., 1906. pp.
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 258-289.)
 Reports of progress.
- MACKINTOSH, JAMES BUCKTON.
 Auerlith, ein neues Thoriummineral.
 See *Hidden and Mackintosh*, No. 768.
 —— Mineralogical notes. Auerlite.
 See *Hidden and Mackintosh*, No. 780.
 —— On a new thorium mineral, auerlite.
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 —— On the occurrence of polycrase. . .
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1153. MACLURE, WILLIAM.
 Observations on the geology of the United States explanatory
 of a geological map.
 Am. Phil. Soc., Trans., v. 6 (1809): 411-428.
 —— ——— *Jour. de Physique*, v. 69 (1809): 204-213; v. 72 (1811):
 137-165.
 Describes formations of the Carolinas, noting their
 boundaries and mineral localities.
1154. ——— Observations on the geology of the United States (with re-
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 nature and fertility of soils. With map and plates. Phila.,
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 —— ——— *Am. Phil. Soc., Trans.*, n. s., v. 1 (1818): 1-91.
 Abstract: *Leonhard's Zts. f. Min.*, 1826, Bd. 1, pp. 124-138.
 Contains references and descriptions of North Carolina
 rock formations and mineral localities.
1155. MADISON, JAMES.
 Météoric stone that fell in North Carolina in January, 1810.
 Med. Repos., v. 14 (1810): 390.
 Brief account of this meteoric stone stated to be a real
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1156. MAFFITT, J. N.
 [Beaufort entrance and Harbor, North Carolina.]
 (In *U. S. Coast Survey, Rept.* 1854. Appendix 14. Wash.,
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 Report of survey of Beaufort harbor.
1157. ——— Re-examination of the bars and entrances to Cape Fear
 river, North Carolina.
 (In *U. S. Coast Survey, Rept.* 1857. Appendix No. 17.
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 Account of changes in the locality since survey of 1851.

MANGUM, A. W.

Soil survey of the Mt. Mitchell area, North Carolina.

See Caine and Mangum, No. 229.

1158. MANNING, I. H.

Analysis of kaolin.

Elis. Mit. Sci. Soc., Jour., v. 2 (1885): 93.

Analysis of specimen from Jackson county.

1159. — Analysis of specular iron ore.

Elis. Mit. Sci. Soc., Jour., v. 2 (1885): 95.

Analysis of specimen from Salem, Forsyth county.

1160. MARCOU, JULES.

Biographical notice of Ebenezer Emmons.

Am. Geol., v. 7 (1891): 1-23.

1161. — Distribution géographique de l'or et de l'argent aux États-Unis et dans les Canadas.

Soc. de Géographie, Bull., Ser. V, v. 14 (1867): 523-534.

Abstract: Neues Jahr. f. Min., 1870, pp. 117; 118.

Describes first discovery of gold in Cabarrus county, by John Reed in 1799.

1162. — Ebenezer Emmons.

Science, v. 5 (1885): 456-458.

Biographical sketch of Emmons.

1163. — Geology of North America. . . Zurich, Zürcher & Furrer; New York, Wiley & Halsted, 1858. 144 pp. 32½ x 25 cm. Plates. Maps.

Review by F. Roemer: Neues Jahr. f. Min., 1858, pp. 553-555.

Discusses in a general way the geology of North Carolina, and presents a geological map of the United States showing the North Carolina formations.

1164. — Gold in North Carolina.

Bost. Soc. Nat. Hist., Proc., v. 9 (1862): 47.

Notes on gold contained in beds of red sandstone.

1165. — Triassic flora of Richmond, Va.

Am. Geol., v. 5 (1890): 160-174.

Discusses age of coal-formation of North Carolina.

1166. MARIGNAC, CHARLES.

Sur les terres de la samarskite.

Archives des Sci. Phys. et Nat., Ser. III, v. 3 (1880): 413-438.

Résumé of chemical experiments upon the earths of the samarskite of North America. (Mitchell county, North Carolina.)

1167. Marls of North Carolina.

(In Commissioner of Agriculture, Rept. 1868. Wash., 1869. 23 cm. pp. 385-386.)

Contains tables of analyses of marls from Wayne, Edgecombe, Pitt, Bladen, Jones, Craven and Nash counties.

1168. MARSH, O_{THINEL} C_{HARLES}.
 Fossil from North Carolina.
 Acad. Nat. Sci. Phila., Proc., [v. 22] (1870): 2.
 Exhibits tooth of *Mosasaurus crassidens* from the cretaceous.
1169. — On the *Palæotrochis* of Emmons, from North Carolina.
 Am. Jour. Sci., Ser. II, v. 45 (1868): 217-219.
 Abstract: Neues Jahr. f. Min., 1868, p. 875.
 Description and discussion of the *Palæotrochis*.
1170. MARSHALL, W_{ILLIAM} L.
 River and harbor improvements in North Carolina in 1908.
 (In Chief of Eng. Rept., 1908, pt. 1. pp. 274-306.)
1171. MATHER, WILLIAM W.
 On the occurrence of boulders and scratches.
 Am. Jour. Sci., Ser. I, v. 41 (1841): 174.
 — — — Assoc. Am. Geol., Trans. (1843): 27-28.
 Abstract: Neues Jahr. f. Min., 1842, pp. 245-246.
 Note on granite decomposition in the gold region.
1172. MATHEWS, E_{DWARD} B_{ENNETT}.
 Notes on some flattened garnets from North Carolina.
 Johns Hopkins Univ. Circ., v. 15 (1895): 8.
 Crystallographic and goniometrical descriptions.
1173. MAURY, M_{ATTHEW} F_{ONTAINE}.
 Geography of North Carolina: a supplement to Maury's Manual of Geography. New York, 1882. 10 pp. 31 cm.
 Map.
 General geographical sketch.
1174. — Remarks on the Gulf stream and currents of the sea.
 Am. Jour. Sci., Ser. I, v. 47 (1844): 161-181.
1175. MAXWELL, HENRY V.
 Mining in eastern North Carolina.
 Eng. & Min. Jour., v. 77 (1904): 167-168.
 Describes the eastern gold belt in Nash, Franklin, Halifax and adjoining counties, the mines and mining operations. Names the Mann-Arrington, Burt and Portis mines, all placer mines.
1176. MAYER, ALFRED GOLDSBOROUGH.
 Our neglected southern coast. . .
 Nat. Geog. Mag., v. 19 (1908): 859-871.
 Popular account of general conditions along the coast of the Southern Atlantic states, with geographical notes on portions of the North Carolina coast.
1177. MEASE, JAMES.
 A geological account of the United States, comprehending a short description of their animal, vegetable and mineral productions. Phila., Birch & Small, 1807. 496 pp. 15 cm.
 Many references to North Carolina: coast, p. 58; soil, p. 209; clay, p. 401; limestone, p. 406; gold, pp. 413-415; Pilot mountain, pp. 451-452.

1178. Mecklenburg gold mining company. Act of incorporation, and report of secretary of the company . . . with accompanying documents. New York, W. Tolefree, 1833. 31 pp. 19 cm.
Contains notes on condition of mines in Mecklenburg county, including Charlotte, Rudisil, Maxwell, McClure and Capps mines.
1179. MEEHAN, THOMAS.
On the timber line of high mountains.
Acad. Nat. Sci. Phila., Proc., [v. 32] (1890): 341-346.
Notes on Roan mountain.
- MEEKER, F. N.
Soil survey of the Asheville area, North Carolina.
See Lapham and Meeker, No. 1054.
1180. MEEKS, REGINALD.
Corundum in North Carolina in 1906.
Mineral Industry, v. 15 (1906): 317.
1181. MEGRAW, HERBERT A.
Cyanidation in the south.
Eng. & Min. Jour., v. 79 (1905): 705-707.
Describes the Iola mine in Montgomery county, geology of locality, occurrence of gold ore and the cyanidation process in use.
1182. MELL, PATRICK HUES.
Auriferous slate deposits of the southern mining region.
Am. Inst. Min. Eng., Trans., v. 9 (1881): 399-402.
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Discusses the auriferous slate deposits of North Carolina, and the methods of working them.
1183. MELLISS, D. ERNEST.
Report on the property of the Empire gold mining company, Mecklenburg county, North Carolina. New York, Craft & Oxford, 1868. 24 pp. 22 cm.
Description of this property, ores and methods of working.
1184. MEMMINGER, CHARLES GUSTAVUS.
Phosphate in North Carolina.
MSS. N. C. Geol. Survey. Barlow, Florida, June 15, 1894.
Describes phosphate deposits near Castle Hayne station, gives geological and topographic notes on region, with analyses of specimens.
1185. — Phosphate rock in North Carolina.
Mineral Industry, v. 11 (1902): 521.
Notes on production of shell rock at Castle Hayne in recent years.
1186. Memoir of the Rev. Elisha Mitchell, D. D., late professor of chemistry, mineralogy and geology of the University of North Carolina.
Chapel Hill, J. M. Henderson, 1858. 88 pp. 22½ cm.

1187. MENDENHALL, THOMAS CORWIN.
 Coast survey operations in North Carolina.
 (In U. S. Coast & Geod. Survey, Rept. 1889. Wash., 1890.
 pp. 46-47.)
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 1892. pp. 43-44.)
1188. MERCUR, JAMES.
 Examination of Meherrin river, North Carolina.
 (In Chief of Eng. Rept., 1882, pt. 2. Appendix I 23, pp.
 1114-1117.)
 — — (In U. S. 47th Cong., 1st Sess., 1882. Sen. Ex. Doc. No.
 169, pp. 2-4.)
1189. — Examination of New river, North Carolina.
 (In Chief of Eng. Rept., 1882, pt. 2. Appendix I 24, pp.
 1117-1119.)
 — — (In U. S. 47th Cong., 1st Sess., 1882. Sen. Ex. Doc. No.
 169, pp. 6-7.)
1190. — Examination of Oregon inlet, Dare county, North Carolina
 (In Chief of Eng. Rept., 1882, pt. 2. Appendix I 27, pp.
 1127-1128.)
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1191. — Examination of water connection between Waccamaw and
 Cape Fear rivers, North Carolina.
 (In Chief of Eng. Rept., 1882, pt. 2. Appendix I 25, pp.
 1119-1122.)
 — — (In U. S. 47th Cong., 1st Sess., 1882. Sen. Ex. Doc. No. 169,
 pp. 8-11.)
 Describes general character of the country between the
 two rivers.
1192. — Examination of White Oak river, North Carolina.
 (In Chief of Eng. Rept., 1882, pt. 2. Appendix I 22, pp.
 1113-1114.)
 — — (In U. S. 47th Cong., 1st Sess., 1882. Sen. Ex. Doc. No.
 169, pp. 4-5)
1193. — Improvement of Beaufort harbor, North Carolina.
 (In Chief of Eng. Rept., 1883, pt. 1. Appendix K 14, pp.
 855-857.)
 — — (In Chief of Eng. Rept., 1882, pt. 2. Appendix I 13, pp.
 1093-1098.)
1194. — Improvement of Cape Fear river from Wilmington to Fayetteville,
 North Carolina.
 (In Chief of Eng. Rept., 1881, pt. 1. Appendix I 14, pp.
 1017-1020.)
 — — (In U. S. 46th Cong., 3d Sess., 1881. House Ex. Doc. No.
 78, pp. 3-6.)

- — — (*In Chief of Eng. Rept., 1882, pt. 2. Appendix I 14, pp. 1098-1101.*)
- — — (*In Chief of Eng. Rept., 1883, pt. 1. Appendix K 15, pp. 858-860.*)
- Reports of progress.
1195. — Improvement of Contentnea creek, North Carolina.
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- — — U. S. 46th Cong., 3d Sess., 1881. House Ex. Doc. No. 85, 4 pp.
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- — — (*In Chief of Eng. Rept., 1883, pt. 1. Appendix K 13, pp. 854-855.*)
- Reports of progress.
1196. — Improvement of Currituek sound, Coanjok bay, North river and bar, North Carolina.
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- Reports of progress.
1197. — Improvement of Lillington river, North Carolina.
(*In Chief of Eng. Rept., 1881, pt. 1. Appendix I 15, pp. 1020-1023.*)
- — — (*In U. S. 46th Cong., 3d Sess., 1881. House Ex. Doc. No. 78, pp. 8-11.*)
- — — (*In Chief of Eng. Rept., 1883, pt. 1. Appendix K 16, pp. 860-862.*)
- Reports of progress.
1198. — Improvement of Meherrin river, North Carolina.
(*In Chief of Eng. Rept., 1883, pt. 1. Appendix K 7, p. 846.*)
1199. — Improvement of Neuse river, North Carolina, from its mouth to the head of navigation.
(*In Chief of Eng. Rept., 1881, pt. 1. Appendix I 10, pp. 1003-1006.*)
- — — (*In Chief of Eng. Rept., 1882, pt. 2. Appendix I 10, pp. 1086-1088.*)
- — — (*In Chief of Eng. Rept., 1883, pt. 1. Appendix K 11, pp. 850-853.*)
- Reports of progress.
1200. — Improvement of North Landing river, Virginia and North Carolina.
(*In Chief of Eng. Rept., 1881, pt. 1. Appendix I 6, pp. 993-996.*)

- — — (*In Chief of Eng. Rept., 1882, pt. 2. Appendix I 6, pp. 1078-1080.*)
 Reports of progress.
1201. — — — Improvement of Pamlico and Tar rivers, North Carolina.
 (*In Chief of Eng. Rept., 1881, pt. 1. Appendix I 9, pp. 1001-1003.*)
 — — — (*In Chief of Eng. Rept., 1882, pt. 2. Appendix I 9, pp. 1083-1085.*)
 — — — (*In Chief of Eng. Rept., 1883, pt. 1. Appendix K 10, pp. 848-850.*)
 Reports of progress.
1202. — — — Improvement of Scuppernong river, North Carolina.
 (*In Chief of Eng. Rept., 1881, pt. 1. Appendix I 8, pp. 1000-1001.*)
 — — — (*In Chief of Eng. Rept., 1882, pt. 2. Appendix I 8, p. 1083.*)
 Reports of progress.
1203. — — — Improvement of Town creek, North Carolina.
 (*In Chief of Eng. Rept., 1881, pt. 1. Appendix I 16, pp. 1023-1025.*)
 — — — (*In U. S. 46th Cong., 3d Sess., 1881. House Ex. Doc. No. 78, pp. 6-7.*)
 — — — (*In Chief of Eng. Rept., 1883, pt. 1. Appendix K 17, pp. 862-863.*)
 Reports of progress.
1204. — — — Improvement of Trent river, North Carolina.
 (*In Chief of Eng. Rept., 1881, pt. 1. Appendix I 11, pp. 1007-1009.*)
 — — — (*In Chief of Eng. Rept., 1882, pt. 1. Appendix I 11, pp. 1088-1090.*)
 — — — (*In Chief of Eng. Rept., 1883, pt. 1. Appendix K 12, pp. 853-854.*)
 Reports of progress.
1205. — — — Improvement of Yadkin river, North Carolina.
 (*In Chief of Eng. Rept., 1881, pt. 1. Appendix I 17, pp. 1025-1028.*)
 — — — (*In Chief of Eng. Rept., 1882, pt. 2. Appendix I 17, pp. 1102-1107.*)
 — — — (*In Chief of Eng. Rept., 1883, pt. 1. Appendix K 18, pp. 864-865.*)
 Reports of progress.
1206. — — — Preliminary examination of Alligator river, North Carolina.
 (*In Chief of Eng. Rept., 1884, pt. 2. Appendix L 30, pp. 1059-1060.*)
1207. — — — Preliminary examination of Black river, North Carolina.
 (*In Chief of Eng. Rept., 1884, pt. 2. Appendix L 31, pp. 1061-1062.*)
 — — — (*In U. S. 48th Cong., 1st Sess., 1884. Sen. Ex. Doc. No. 30, pp. 42-43.*)

1208. — Preliminary examination of Clubfoot, Harlowe and Newport rivers, North Carolina, on line of inland navigation to Beaufort harbor.
(In Chief of Eng. Rept., 1884, pt. 2. Appendix L 36, pp. 1065-1071.)
 — — — *(In U. S. 48th Cong., 1st Sess., 1884. Sen. Doc. No. 63, pp. 1-7.)*
1209. — Preliminary examination of Edenton bay, North Carolina.
(In Chief of Eng. Rept., 1884, pt. 2. Appendix L 37, pp. 1071-1075.)
 — — — *(In U. S. 48th Cong., 1st Sess., 1884. Sen. Doc. No. 63, pp. 7-11.)*
1210. — Preliminary examination of Waccamaw river between Conwayborough, South Carolina, and Waccamaw Lake, North Carolina.
(In Chief of Eng. Rept., 1884, pt. 2. Appendix L 28, pp. 1056-1058.)
1211. — Report in reference to preliminary examinations of the sound between Beaufort and New river and of White Oak river to Smith's Mills, North Carolina.
(In Chief of Eng. Rept., 1884, pt. 2. Appendix L 27, pp. 1055-1056.)

MERRILL, GEORGE P[ERKINS].

The building and ornamental stones of North Carolina.

See Watson and Laney, No. 1829.

1212. — [Building stones of North Carolina.]
(In his Building and ornamental stones . . . Smithsonian Inst., Bd. of Regents, Rept. 1886, pt. 2. Wash., 1889. 23 cm. pp. 357-472; 573-576.)
Describes briefly the building and ornamental stones of the state. Contains catalogue of the collection of these stones in the U. S. National Museum.
1213. — The non-metallic minerals. Their occurrence and uses. New York, John Wiley & Sons, 1904. 414 pp. 23 cm. Plates. Illus.
Describes many mineral products of North Carolina, including corundum, chromite, mica, zircon, spodumene, allanite, orthite, talc, soapstone, pyrophyllite, phosphates, monazite and samarskite.
1214. — Notes on asbestos and asbestiform minerals.
 U. S. Nat. Mus., Proc., v. 18 (1895): 281-292.
Describes three specimens of asbestos from Mitchell and Franklin counties in the U. S. National Museum.
1215. — Notes on some North Carolina building and ornamental stones.
 Stone, v. 4 (1892): 77-79.
Describes the geological formations of the state, and the various deposits of building stones found therein.

1216. — Notes on the composition and structure of the Hendersonville, North Carolina, meteorite.
U. S. Nat. Mus., Proc., v. 32 (1907): 79-82.
 Notice: *Am. Jour. Sci.*, Ser. IV, v. 23 (1907): 395.
 Abstract by L[eonard] J. S[pencer]: *Chem. Soc. (London) Jour.*, v. 92, pt. 2 (1907): 278.
 Description of this meteorite with analysis by Wirt Tassin.
1217. — On the meteorite from Rich mountain, Jackson county, North Carolina, with chemical analysis by Wirt Tassin.
U. S. Nat. Mus., Proc., v. 32 (1907): 241-244.
 Abstract by L[eonard] J. S[pencer]: *Chem. Soc. (London) Jour.*, v. 92, pt. 2 (1907): 484-485.
 Abstract: *Nature*, v. 76 (1907): 65.
1218. — Stones for building and decoration. 3d ed. New York, John Wiley & Sons, 1903. 551 pp. 24 cm.
 Enumerates building stone resources of North Carolina: granites and gneisses, pp. 79-81; porphyry, pp. 98-99; sandstone and conglomerates, p. 154; marble, pp. 221-222; limestones and dolomites, p. 319; serpentine, p. 369.
1219. Meteorological record at Chapel Hill for the five years 1880-1884.
Elis. Mit. Sci. Soc., Jour., v. 2 (1885): 48-56.
 Tables of monthly means of temperature, monthly ranges of barometer, barometric waves and rainfall, and annual means and ranges.
1220. MEZGER, C. A.
 The monazite districts of North and South Carolina.
Am. Inst. Min. Eng., Trans., v. 25 (1895): 822-826.
 Abstract by A. S.: *Zts. f. prakt. Geol.*, 1896, p. 166.
 Describes monazite districts of the state, situated in Alexander, Catawba, Burke, Rutherford, McDowell, Cleveland, Lincoln, Polk and Henderson counties, the mines and mining methods.
1221. — Some geological observations in the vicinity of Charlotte, North Carolina.
Eng. & Min. Jour., v. 52 (1891): 725.
 Describes the red and yellow clays present in the railroad cuts of the vicinity, and discusses propriety of considering the red clay, laterite.
1222. Mica mines in the south.
Mineral Collector, v. 4 (1897): 132-135.
 Describes mica industry at Bakersville.
1223. Mica mining in North Carolina.
Mineral Industry, v. 1 (1892): 340; v. 12 (1905): 447.
1224. MIDDLETON, GEORGE.
 The North Carolina zircon mines.
Mineral Collector, v. 10 (1903): 125-127.
 Notes of personal trips made to Zirconia with brief observations on the general conditions.

1225. MIDDLETON, JEFFERSON.

Clay from North Carolina.

(In U. S. 12th Census. Spec. Rept., Mines & Quarries. Wash., 1905. p. 861.)

Describes clay and kaolin production and gives analysis of washed kaolin quoted from N. C. Geol. Survey, Bull. 13.

1226. MIERS, H[ENRY] A[LEXANDER].

Quartz from the Emerald and Hiddenite mine, North Carolina.

Am. Jour. Sci., Ser. III, v. 46 (1893): 420-424.

Abstract by A. Osann: Zts. f. Kryst. u. Min., v. 25 (1895): 111-112.

Abstract: Soc. Min. de France, Bull., v. 18 (1895): 154-155.

Abstract by F. Rinne: Neues Jahr. f. Min., 1895, Bd. 2. Min., pp. 235-236.

Detailed crystallographic description of three quartz crystals from this locality.

1227. MILLER, C. C.

General report of the President and Directors of the western North Carolina mining, smelting and copperas manufacturing company. . . Anderson, S. C., 1866. 18 pp. 22 cm.

General account of the mineral lands of this company in Jackson county. Contains reports of C. D. Smith and John P. Cunningham, describing the geological and mineralogical character and value of these lands.

1228. MILLER, S[AMUEL] A[LMOND].

North American mesozoic and caenozoic geology and paleontology.

Cin. Soc. Nat. Hist., Jour., v. 2 (1879): 140-161; 223-244; v. 3 (1880): 9-32; 79-118; 165-202; 245-288; v. 4 (1881): 3-46; 93-144; 183-234.

Résumé of what has been done and written on this subject. North Carolina triassic coal fields on the Deep and Dan rivers are discussed. Summaries of Emmons' and Kerr's reports. Names fossils discovered in tertiary, cretaceous and triassic formations, and described by Emmons, Kerr, Cope, Bunbury, Morton, Conrad and Wagner.

1229. [Mineral collection from North Carolina.]

(In Mineralogical collection in the Crystal Palace. Min. Mag., Ser. I, v. 2 (1854): 593-609.)

Description of mineral specimens exhibited at the Crystal Palace, N. Y., 1854, from North Carolina.

1230. Minerals found at Dysartville, North Carolina.

Eng. & Min. Jour., v. 61 (1896): 425.

A list of minerals found at this locality, with the names of the finders, and quality of the minerals.

1231. Minerals of North Carolina.

Land we love, v. 1 (1866): 162-169.

Popular account of the mineral resources of the state.

1232. Mines, minerals and mineral industries of the South. Wash., Southern R. R., Land & Indust. Dept., 1899. 27 pp. 24 cm.

Notes on iron, coal, gold, marble, clay, bauxite and corundum deposits in North Carolina.

1233. [Mines of North Carolina.]
(In U. S. 12th Census, Spec. Rept., Mines & Quarries.
Wash., 1905. pp. 275-279.)
Describes mineral deposits and mining conditions in 1902.
1234. Mining Engineer.
King's Mountain, North Carolina, gold mine.
Eng. & Min. Jour., v. 54 (1892): 147.
Notes on ores at this mine.
1235. Mining resources of North Carolina.
DeBow's Review, v. 5 (1848): 93.
Describes mineral deposits and mines in Davidson, Rowan,
Gaston, Lincoln, Catawba, Caldwell, Montgomery, Ruther-
ford, Burke and McDowell counties.
1236. MITCHELL, ELISHA.
[Altitudes and soils of western North Carolina.]
(In Lanman, Charles. Letters from the Alleghany Moun-
tains. New York, Putnam, 1849. 20 cm. pp. 192-198.)
Letter to Thomas L. Clingman describing altitudes of the
peaks of the Black mountains and Blue Ridge and general
topographic features, with notes on the soils.
1237. ——— Diary of a geological tour by Dr. E. Mitchell in 1827-1828,
with introduction and notes by Dr. Kemp P. Battle.
James Sprunt Hist. Mono., No. 6. Published by the Univ.,
Chapel Hill, N. C., 1905. 73 pp. 22 cm.
Contains letters descriptive of topography and geology of
North Carolina, written while on a trip through the west-
ern counties. Notes on a few mines and mineral deposits.
Popularly written, without technical descriptions.
1238. ——— Elements of geology: with an outline of the geology of North
Carolina. . . n. p. 1842. 141 pp. 23½ cm. Map.
Descriptions of the geological formations and mineral de-
posits in the state as then known.
1239. ——— Geological report of Professor Mitchell.
(In Repts. for the use of the Board of Agriculture. 23 cm.
pp. 101-108.)
Brief outline of the general geology of the state princi-
pally of the northwestern counties. Describes the rock
formations of Ashe, Wilkes and Surry counties, and the
deposits of iron and copper ores. Contains geographical
notes on the district.
1240. ——— Notice of the height of mountains in North Carolina.
Am. Jour. Sci., Ser. I, v. 36 (1839): 377-380.
General notes on topography, with altitudes of the Black
mountains.
1241. ——— On the character and origin of the low country of North
Carolina.
Am. Jour. Sci., Ser. I, v 13 (1828): 336-347.
Abstract by A. Boué: Bull. des Sci. Nat. et de Géol., v. 17
(1829): 38.
Abstract: Leonhard's Zts. f. Min., 1828, pp. 902-903.
Describes composition and constitution of the low country,
age and mode of formation.

1242. — On the geology of the gold region of North Carolina.

Am. Jour. Sci., Ser. I, v. 16 (1829): 1-19. Map.

Abstract by A. Boué: Bull. des Sci. Nat. et de Géol., v. 22 (1830): 19-22.

Author outlines geology of the state, particularly the gold region, and criticizes the statements of Olmsted and Rothe on same subject.

1243. — Report on the geology of North Carolina, conducted under the Board of Agriculture. Pt. 3. Raleigh, J. Gales & Son, 1827. 43 pp. 23 cm.

Outlines in a general way the geology of the state. Forms pt. 3. of Olmsted, D. Report on geology of North Carolina.

1244. — Report on the turnpike from Raleigh, west.

(In Message from His Excellency, Governor Graham, communicating report of Professor Mitchell. Raleigh, W. R. Gales, 1846. 18 pp. 21 cm.)

Describes physiographic features of country through which survey was made for a turnpike from Raleigh west, and to Fayetteville.

1245. MITCHILL, SAMUEL LATHAM.

Catalogue of the organic remains, which with other geological and some mineral articles, were presented to the N. Y. Lyceum of Nat. Hist. in August, 1826. . . New York, J. Seymour, 1826. 40 pp. 23 cm.

Fossil specimens named from Murfreesborough, Salisbury and Wilmington.

1246. — A detailed narrative of the earthquakes which occurred on December 16, 1811, and agitated the parts of North America which lie between the Atlantic Ocean and Louisiana. . .

N. Y. Lit. & Phil. Soc., Trans., v. 1 (1815): 284-307.

Notes on earthquake shocks felt at Raleigh on morning of Dec. 16, 1811, and at Lincoln on the night of the 20th.

1247. — Fossil remains in North Carolina.

(In his Observations on the geology of North America. . .

In Cuvier, M., Essay on the Theory of the earth. New York, 1818. 23 cm. pp. 400-402.)

Brief descriptions of skeleton of a whale discovered at Fishing creek, a huge skeleton found on the bank of the Meherrin river near Murfreesborough, and of beds of shells found in the "Chicasaw country."

1248. Monazite and zircon in North Carolina.

Mining World, v. 26 (1907): 725; v. 27 (1907): 317; v. 28 (1908): 151.

Describes monazite deposits and production for 1906.

1249. Monazite in North Carolina.

Mineral Industry, v. 3 (1894): 455-456.

Describes occurrence of monazite in the state.

1250. MOONEY, CHARLES N. and AYRS, O. L.
Soil survey of the Greeneville area, Tennessee-North Carolina.
(*In U. S. Dept. Agric., Field Operations, Bureau of Soils, 6th Rept., 1904. Wash., 1905. pp. 493-525.*)
Description of this area which includes a part of Madison county, with analyses of soils.
1251. MOORE, A.
Memorial of the inhabitants of Wilmington to the General Assembly of North Carolina, on the subject of the flats or shoals of the Cape Fear. Raleigh, Thomas Henderson, 1822. 4 pp. 22 cm.
Memorial requesting improvement of the Cape Fear river.
1252. MOORE, FREDERICK.
Gold in North Carolina.
Sci. Amer. Suppl., v. 53 (1902): 21918.
Brief account of the discoveries of gold, some of the mining properties and methods of mining.
1253. MOORMAN, J[OHN] J.
Mineral springs of North Carolina.
(*In his The mineral waters of the United States and Canada. . . Baltimore, Kelly & Piet, 1867. 19 cm. pp. 391-395.*)
—— — (*In his Mineral springs of North America. . . Phila., Lip-pincott, 1873. 18½ cm. pp. 200-203.*)
Enumerates mineral springs in Buncombe, Warren, Granville and Catawba counties. Analysis of water of the Warm and Hot springs of Buncombe county by E. D. Smith.
1254. Morceau d'or natif.
Bull. des Sci. Nat. et de Géol., v. 4 (1825): 54.
Mentions discovery of lump of native gold.
1255. MOREHEAD, J. M.
Occurrence of gold in Montgomery county, North Carolina.
Elis. Mit. Sci. Soc., Jour., v. 7 (1890): 87-88.
Describes occurrence of gold at the Sam Christian mine, and discusses Emmons' theory of the sedimentary origin of the gold.
1256. — Quantitative analysis of the zircon.
Elis. Mit. Sci. Soc., Jour., v. 8 (1891): 24-26.
1257. MORRIS, CHARLES S.
The Piedmont Air Line, and the mountain resorts of western North Carolina, South Carolina and Georgia. Phila., J. W. Nagle, n. d., 78 pp. 26 cm.
Contains description of scenery with notes on the mineral resources and gold mining.

1258. MORSE, JEDIDIAH.

The American universal geography . . . Boston, I. Thomas & E. T. Andrews, 1793, 2 pts. 22 cm. 3d ed., 1796; 4th ed., 1802; 5th ed., 1805; 6th ed., 1812; 7th ed., 1819.

Contains geographical descriptions of the state, with notes on topography, mineralogy, soil and climate, rivers and sounds. To be found in pt. 1, 2d ed., pp. 560-584; pt. 1, 3d ed., pp. 640-657, with map; pt. 1, 4th ed., pp. 638-658; pt. 1, 6th ed., pp. 501-516; pt. 1, 7th ed., pp. 500-507.

1259. — North Carolina.

(In *his* American Geography. . . London, printed for J. Stockdale, 1794. 28 cm. pp. 513-526.)

Geographical description of the state.

1260. MORTON, SAMUEL, GEORGE.

Geological observations on the secondary, tertiary and alluvial formations of the Atlantic coast of the United States of America. Arranged from the notes of Lardner Vanuxem.

Acad. Nat. Sci. Phila., Jour., v. 6, pt. 1 (1829): 59-71.

General discussion of these formations on the Atlantic coast, including North Carolina.

1261. — Notice of the fossil teeth of fishes of the United States, the discovery of the gale in Alabama and a proposed division of the American cretaceous group.

Am. Jour. Sci., Ser. I, v. 28 (1835): 276-278.

Names characteristic fossils found near Wilmington: *Spatangus parastatus*; *Ananchytes ambriatiles*; *Ananchytes cinctus*; *Nucleolites crucifer*; *Belemnites(?) ambigus*; *Scaloria annulata*, and *Cidarites diatretum*.

1262. — Supplement to the synopsis of the organic remains of the ferruginous sand formation of the United States; with geological remarks.

Am. Jour. Sci., Ser. I, v. 23 (1833): 288-294; v. 24 (1833): 128-132.

Mentions occurrence of a green sand district at Ashwood near the Cape Fear river, and a calcareous deposit near Wilmington.

1263. — Synopsis of the organic remains of the cretaceous group of the United States, illustrated by nineteen plates. . . Phila., Key & Biddle, 1834. 24 cm.

Abstract: Neues Jahr. f. Min., 1838, pp. 237-238.

Description of the cretaceous of the United States, its mineralogical and organic characteristics, and its geographical distribution including the formation along the Cape Fear river.

1264. Mountain region of North Carolina.

DeBow's Review, v. 29 (1860): 537.

Topographical description of Asheville, Deaver White Sulphur Springs and the French Broad valley.

1265. Mountain regions of North Carolina and Tennessee.

DeBow's Review, v. 26 (1859): 702-706.

Describes the Smoky mountains, giving heights as estimated by Profs. Mitchell, Guyot and Mr. S. B. Buckley. Notes on the geology, topography and hydrography of the region.

1266. Mountain scenery of North Carolina.

DeBow's Review, v. 29 (1860): 649-658.

Topographic descriptions of the counties of Cherokee, Macon, Jackson, Haywood, Henderson, Madison and Yancey. Gives lists of the mountains with measurements.

1267. MOXAM, EDGAR C.

The great gossan lead of Virginia.

Am. Inst. Min. Eng., Trans., v. 21 (1892): 133-138.

Describes the lead as a source of iron ore, remarking upon its continuation into North Carolina.

1268. MURPHEY, A[RRICHBALD] D[EBOW].

Memoir on the internal improvement contemplated by the Legislature of North Carolina: and on the resources and finances of that state. Raleigh, J. Gales, 1819. 88 pp. 21½ cm.

Review by J[ARED] S[PARKS]: North Amer. Review, v. 12 (1821): 16-37.

Improvements contemplated relate to:

1. Inlets on coast: Ocracoke inlet, inlet at lower end of Albemarle sound, Old Topsail inlet at Beaufort, and Bogue inlet at Swansborough.
2. Sounds along the coast.
3. Primary rivers.
4. Junction of two or more of these rivers by navigable canals.
5. Public highways.
6. Drainage of marshes and swamps of eastern and southern counties.

1269. — Memorial to the General Assembly of North Carolina. Hillsborough, N. C., D. Heartt, Printer. n. d. 11 pp. 22 cm.

Presents plan for an extensive historical and scientific work on North Carolina, which includes the geology, topography and mineralogy of the state. This memorial should not be confounded with his Memoir on Internal improvement. It is in the possession of Dr. S. B. Weeks of North Carolina.

1270. — Report of sundry surveys made by Hamilton Fulton, State Engineer, agreeably to certain instructions from Judge Murphey, chairman, and submitted to the General Assembly at their session in 1819. Raleigh, Thomas Henderson, 1819. 70 pp. 22 cm.

An outline of the contemplated improvements on the inlets, sounds and primary rivers is given, followed by Mr. Fulton's first report which describes as regards navigation the general condition of the large rivers. See Fulton, H., No. 693.

1271. — Report to the Legislature of North Carolina on inland navigation. Raleigh, T. Henderson, 1816. 19 pp. 19 cm.

Report to the Legislature urging the necessity of the improvement of inland navigation of the state.

1272. MURPHY, ELDWARD CCHARLES.

Flood discharge and frequency of Cape Fear river in North Carolina.

(*In* U. S. Geol. Survey, Water-supply and Irrig. Paper No. 162. Wash., 1906. pp. 69-70.)

Contains table giving flood flow of the Cape Fear river at Fayetteville, during all the floods from 1889-1902, and the approximate daily discharges during some of them.

1273. MUSE, W. T.

Report relative to changes at the bar of Hatteras and Ocracoke inlets, N. C.

(*In* U. S. Coast Survey, Rept. 1857. Wash., 1858. Appendix 15, pp. 151-152.)

MYERS, E. W.

Hydrography of the southern Appalachians.

See Pressey and Myers, No. 1514.

1274. ——— Water-power as a source of power and the water-power of North Carolina.

(*In* North Carolina, Bureau of Labor & Printing, Thirteenth Ann. Rept., 1899. Raleigh, Edwards & Broughton, 1900. 24 cm. pp. 318-331.)

Description of the water-powers of the state, and the drainage basins of the principal rivers.

1275. N.

Magnetic iron ores of the Unaka mountains, North Carolina and Tennessee.

Eng. & Min. Jour., v. 25 (1878): 272-273; 293-294.

Contains topographic and geographic notes on Mitchell and Watauga counties, progress of mining development at Cranberry, and brief descriptions of mining properties in the vicinity. Analyses of ore by F. A. Genth.

1276. NASH, ALANSON.

Report to the Board of Internal Improvement for North Carolina, on reclamation of the swamp lands.

(*In* Reports relative to the swamp lands. Raleigh, Lawrence & Lemay, 1827. 22 cm. pp. 5-23.)

——— (*In* North Carolina. Board of Internal Improvement. Extracts from "Reports on public improvements in North Carolina." Raleigh, T. J. Lemay, 1837. 21 cm. pp. 16-32.)

Report of examination of the following swamp lands: White Oak river in Jones and Onslow counties; Catfish lake, Clubfoot and Harlow's creek canal, Albemarle and Pamlico sounds, Waccamaw lake.

1277. NASON, FRANK L.

Limestones associated with pyrites and pyrrhotite of the Appalachian system.

Eng. & Min. Jour., v. 82 (1906): 170-172.

Notes occurrence of limestone associated with pyrite and pyrrhotite in Jackson, Haywood and Alleghany counties.

1278. Native gold discovered in North Carolina.

Med. Repos., v. 7 (1804): 307; v. 8 (1805): 439-440; v. 9 (1806): 429-430; v. 12 (1809): 192-193.

Notice of gold picked up in lumps and grains in Meadow creek, Cabarrus county.

1279. Neue Forschungen und Messungen im Gebirgssystem der Alleghanies.

Petermann's Mittheilungen, 1860, pp. 263-272. Map.

A small part deals with North Carolina, treating of the height of Mt. Mitchell and other points.

1280. New gold mines in America.

Dublin Phil. Jour., v. 21 (1826): 431.

Notice of recent discovery of a gold mine in Montgomery county (North Carolina), one mile east of the Yadkin river.

1281. NEWELL, FREDERICK, HAYNES, J.

Method for using steam gaugings for the computation of water-power.

(In U. S. Geol. Survey, Water-supply and Irrig. Paper No. 47. Wash., 1901. pp. 10-15.)

Describes methods for obtaining and recording gauge heights using measurements obtained on the Deep river at Moncure, North Carolina, as a basis.

1282. ——— {Operations at river stations in North Carolina,}

(In U. S. Geol. Survey, Water-supply & Irrig. Paper No. 15. Wash., 1898. pp. 28-34; 60-63.)

——— (In U. S. Geol. Survey, Water-supply & Irrig. Paper No. 27. Wash., 1899. pp. 25-27; 33-37; 44-45; 62-64.)

——— (In U. S. Geol. Survey, Water-supply & Irrig. Paper No. 36. Wash., 1900. pp. 109-121; 165-170.)

——— (In U. S. Geol. Survey, Water-supply & Irrig. Paper No. 48. Wash., 1901. pp. 134-144; 179-180; 186-191.)

——— (In U. S. Geol. Survey, Water-supply & Irrig. Paper No. 65. Wash., 1902. pp. 242-248; 291-292; 301-308.)

Contains descriptions of river stations and tables of discharge measurements.

1283. ——— {Progress of hydrographic work in North Carolina for 1895,}

(In U. S. Geol. Survey, Bull. 140. Wash., 1896. pp. 65-72.)

Lists of discharge measurements and gauge heights of Dan, Cape Fear, Yadkin and Catawba rivers. Quotes from J. A. Holmes on North Carolina rivers in general.

1284. {Progress of stream measurements in North Carolina,}

(In U. S. Geol. Survey, 19th Ann. Rept., pt. 4. Wash., 1899. pp. 174-219; 255-260.)

——— (In U. S. Geol. Survey, 20th Ann. Rept., pt. 4. Wash., 1900. pp. 50; 142-149; 205-209.)

——— (In U. S. Geol. Survey, 21st Ann. Rept., pt. 4. Wash., 1901. pp. 111-123; 160-165.)

——— (In U. S. Geol. Survey, 22d Ann. Rept., pt. 4. Wash., 1902. pp. 150-156; 174-184; 223-224.)

— — (In U. S. Geol. Survey, Water-supply & Irrig. Paper No. 75. Wash., 1903. pp. 51-58.)

— — (In U. S. Geol. Survey, Water-supply & Irrig. Paper No. 83. Wash., 1903. pp. 15-18; 26-68; 73-82; 194-200; 212-220.)

Contains descriptions of river basins, water-power developments, and tables of estimated monthly discharges of the Roanoke, Tar, Neuse, Haw, Cape Fear, Yadkin, Catawba, Deep, Tuckasegee, French Broad and Hiwassee rivers.

NEWLAND, DAVID H.

[Copper in North Carolina.]

See Struthers, Newland and Fisher, No. 1752.

1285. — Manganese in North Carolina.

Mineral Industry, v. 11 (1902): 461-462.

Describes manganese deposits in Wayne, Haywood and Transylvania counties.

1286. NEWTON, JOHN.

[River and harbor improvements in North Carolina.]

(In Chief of Eng. Rept., 1884, pt. 1. Wash., 1884. pp. 161-163; 166-174.)

— — (In Chief of Eng. Rept., 1885, pt. 1. Wash., 1885. pp. 158-172.)

Reports of progress.

1287. NICHOLAS, FRANCIS C.

The Gold Hill copper mine and its development.

Mining World, v. 27 (1907): 1001-1002.

Historical account of the development and working of the Gold Hill copper mine at Gold Hill, Rowan county.

1288. — The Union copper mines of North Carolina.

Mining World, v. 27 (1907): 883-884.

Account of the development and working of this property located at Gold Hill, Rowan county.

1289. NIEJAHR, F.

Wilmington, Nord Carolina.

A. d. Hydrog. u. Maritimen Meteorol. Berlin, v. 22 (1894): 459-462.

Chiefly a description of the bar of Cape Fear at Wilmington, from the navigator's point of view.

1290. NITZE, H[ENRY] B[ENJAMIN] C[CHARLES].

The genesis of the gold ores in the central slate belt of the Carolinas.

Eng. & Min. Jour., v. 63 (1897): 628-629.

Discusses deposits of gold ores in Granville, Person, Durham, Orange, Alamance, Chatham, Randolph, Davidson, Rowan, Montgomery, Moore, Stanly, Cabarrus, Anson and Union counties.

1291. — and HANNA, GEORGE B[RYON].

Gold deposits of North Carolina.

N. C. Geol. Survey, Bull. 3. Winston, M. I. & J. C. Stewart, 1896. 200 pp. 24 cm. Plates. Maps.

Describes geographic and geologic occurrence of gold, the ore-bearing rocks, deposits, mines and mining operations.

NITZE, H[ENRY] B[ENJAMIN] C[HARLES].

Gold in the Carolinas.

See Holmes and Nitze, No. 837.

1292. — and WILKENS, H[ENRY] A. J.

Gold mining in North Carolina and adjacent south Appalachian region.

N. C. Geol. Survey, Bull. 10. Raleigh, Guy V. Barnes, 1897.
164 pp. 24 cm. Plates. Maps.

Geographical and geological descriptions of the gold belts, historical notes on early gold discoveries and mining, and detailed descriptions of the existing mines, ores, and methods of mining.

1293. NITZE, H[ENRY] B[ENJAMIN] C[HARLES].

Gold mining in the Southern States.

Engineering, v. 10 (1896): 821-844.

Historical and statistical notes on gold mining, describing gold deposits, mines and mining methods in North Carolina.

1294. — Ground mica industry in North Carolina.

Eng. & Min. Jour., v. 54 (1892): 292.

Describes ground mica industry in Mitchell county.

1295. — Iron ores of North Carolina.

(In N. C. Geol. Survey, First Biennial Report, 1891-1892.
Raleigh, Josephus Daniels, 1893. 24 cm. pp. 25-56.)

— — N. C. Geol. Survey, Bull. 1. Raleigh, Josephus Daniels,
1893. 239 pp. 24 cm. Plates. Maps.

Review by Albert Williams, Jr.: Engineering, v. 7 (1894):
427.

Review: N. C. Univ. Mag., Ser. IV, v. 13 (1894): 351-352.

Detailed account of the iron ore deposits, mines and mining operations, with many ore analyses. Bulletin 1 is an enlargement and development of the report given in the First Biennial Report of the State Geologist.

1296. — The limonite area of Cherokee county, North Carolina.

Eng. & Min. Jour., v. 63 (1897): 330-331.

Discusses topographic and geologic features of Cherokee county and the deposits of limonite found therein. Describes the ore-bearing zones in detail, quantity and quality of the ores, mines, prospects and workings, and gives many analyses. Mentions marble beds of the district and gives four analyses.

1297. — Magnetic iron ore in Granville county, North Carolina.

Eng. & Min. Jour., v. 53 (1892): 447.

Description of general and geological features of magnetic iron ore beds in Oak Hill township in Granville county. Analysis of average sample from two of the openings by Dr. F. P. Venable.

1298. — The magnetic iron ores of Ashe county, North Carolina.

Am. Inst. Min. Eng., Trans., v. 21 (1892): 260-280.

Reprint: Elis. Mit. Sci. Soc., Jour., v. 8 (1892): 78-95.

Describes deposits of magnetite in Ashe county, their characteristics and distribution, and includes analyses of the ores made by Messrs. A. S. McCreath, C. B. White and Charles Baskerville.

1299. — Monazite.

Frank. Inst., Jour., v. 144 (1897): 127-133.

Abstract: Pop. Sci. Month., v. 52 (1898): 573-574.

Describes monazite placer deposits of Burke, McDowell, Rutherford, Cleveland and Polk counties, and methods of working the sands. Includes several typical analyses by S. L. Penfield.

1300. — Monazite.

(In U. S. Geol. Survey, 16th Ann. Rept., pt. 4. Wash., 1895. pp. 667-693.)

Abstract by G. Maas: Zts. f. prakt. Geol., 1897, pp. 228-229.

Describes occurrence of monazite sand in Burke, McDowell, Rutherford, Cleveland and Polk counties, mining operations, output and value. Contains a bibliography of monazite.

1301. — Monazite and monazite deposits in North Carolina.

N. C. Geol. Survey, Bull. 9. Raleigh, M. I. & J. C. Stewart, 1895. 47 pp. 24 cm.

Résumé: Elis. Mit. Sci. Soc., Jour., v. 12 (1895): 38-48.

Abstract by Max Bauer: Neues Jahr. f. Min., 1897, Bd. 2. Min. pp. 267-268.

Contains detailed account of monazite and monazite deposits. Describes mining operations, output and value.

1302. — North Carolina monazite.

Am. Inst. Min. Eng., Trans., v. 25 (1895): 40-43.

— — — Chem. News, v. 71 (1895): 181.

Review: Engineering, v. 9. (1895): 370-371.

Abstract by D. A. L[ouis]: Chem. Soc. (London) Jour., v. 68, pt. 2 (1895): 319.

Abstract: Zts. f. prakt. Geol., 1895, p. 220.

Discussion of monazite deposits in McDowell, Burke, Rutherford, Cleveland, Polk, Lincoln, Gaston, Madison, Mitchell and Yancey counties.

1303. — Notes on some of the magnetites of southwestern Virginia and the contiguous territory of North Carolina.

Am. Inst. Min. Eng., Trans., v. 20 (1891): 174-185.

Describes deposits of iron ore situated in Stokes county. Three analyses of ore are given. Discussion by Edmund C. Pechin, pp. 185-188.

1304. — Notes on the Dan River coal basin in North Carolina.

Eng. & Min. Jour., v. 51 (1891): 448.

Describes triassic coal deposit of the Dan River basin.

1305. — and WILKINS, HENRY, A. J.

The present condition of gold mining in the southern Appalachian States.

Am. Inst. Min. Eng., Trans., v. 25 (1895): 661-796.

Deals with gold-mining industry in North Carolina, giving historical and statistical information, descriptions geographical and geological, of the gold belts, distribution of the mines, and mining, milling and metallurgical practice in general. Discussion of paper by Messrs. Thies, Raymond, Nitze, Phillips and Crandall, pp. 1016-1027.

1306. NITZE, H_[HENRY] B_[ENJAMIN] C_[HARLES].

Report on the iron ore, copper ore and other mineral deposits in Granville county, North Carolina.

MSS. N. C. Geol. Survey, July 29, 1896. 17 pp. Sketch map.

Report of examination of iron ore deposits at Cornwall on Grassy creek. Gives assays of the concentrates made by Charles Baskerville. This MSS. is in possession of the State of North Carolina.

1307. — Some late views on the so-called taconic and huronian rocks in central North Carolina.

Elis. Mit. Sci. Soc., Jour., v. 13 (1896): 53-72.

Describes the Taconic of Emmons and the Huronian of Kerr as the central gold-bearing slate belt.

1308. — Statistics of the mineral products of North Carolina for 1892.

Elis. Mit. Sci. Soc., Jour., v. 9 (1892): 55-61.

Abstract: Eng. & Min. Jour., v. 55 (1893): 343.

Statements as to location of the mines of the various ores and minerals are given.

1309. NOBLE, M_[ARCUS] C_[ICERO] S_[TEVENS].

Geography of North Carolina. A supplement to Maury's manual of geography. New York, 1896. 16 pp. 31 cm.

1310. Nord-Carolina und was es dem Einwanderer anzubieten hat. Leipzig, Gröbel & Sommerlatte, 1900. 131 pp. 24 cm. Illus. Map.

This is a German edition of "North Carolina, and its resources, 1896." Title on cover: Beschreibung von Nord-Carolina, die farnen, frucht und wein-garten, die wälder, gruben und fabriken.

1311. North Carolina.

(In Appleton's Hand-book of American Travel. New York, Appleton & Co., 1872. 18½ cm. pp. 344-348.)

Description of the state, including the mountain region.

1312. — (In The British Colonist in North America. London, S. Sonnenschein & Co., 1890. 19 cm. pp. 279-320.)

General description of the state; notes on climate, physiography, mineral resources and agriculture.

1313. — N. C. Univ. Mag., v. 2 (1853): 1-4.

Physiographic notes explanatory of Moseley's map. See Map No. 30.

1314. — The Southern Guide, v. 1 (1878): 82-92.

Description of the state, the swamp lands in the eastern part, the Piedmont and mountainous districts. Notes on geology, agriculture, mineral and rock products and scenery.

1315. North Carolina. Asheville.

Amer. Climat. Assoc., Trans., v. 12 (1896): 271.

Notes on climate of Asheville, with table of meteorological observations.

1316. North Carolina barytes.

Niles' Register, v. 36 (1829): 34.

Notice of discovery of barite in the gold mines.

1317. — Eng. & Min. Jour., v. 70 (1900): 769.
Notes on barite mining near Bessemer City.
1318. North Carolina. Board of Education.
Report of the secretary of the Board of Education in relation to swamp lands and also report of agent and engineer. Raleigh, P. M. Hale, 1887. 27 pp. 23 cm.
Contains reports of S. M. Finger, secretary of the board, and of W. G. Lewis, engineer, on the swamp lands situated at Angola bay, and in Carteret, Columbus, Craven, Washington and Hyde counties. Includes two soil analyses by Charles W. Dabney.
1319. — Reports on the swamp lands of North Carolina belonging to the State Board of Education. Raleigh, Ashe & Gatling, 1883. 81 pp. 23 cm.
Reports by W. C. Kerr, Walter Gwynn, W. G. Lewis and Thomas H. Allen on the swamp lands. Concerns chiefly surveying the lands, with notes on drainage, clearing and probable fertility.
1320. North Carolina. Board of Immigration, Statistics and Agriculture. North Carolina: its resources and progress; its beauty, healthfulness and fertility; and its attractions and advantages as a home for immigrants. Raleigh, Josiah Turner, 1875. 99 pp. 23 cm. Raleigh, Daily News Book & Job Presses, 1876. 107 pp. 21 cm. Map.
General and statistical account of the state and its resources. Includes account of the mineral resources by W. C. Kerr.
1321. North Carolina. Board of Internal Improvement.
Annual report of the Board of Internal Improvement of North Carolina to the General Assembly, Nov. 27, 1820, together with Mr. Fulton's reports to the Board. Raleigh, J. Gales & Son, 1820. 56 pp. 21½ cm.
Contains general report of the board and various reports of Hamilton Fulton of examinations of rivers and canals. See *Fulton, H.*, No. 630.
1322. — Annual report of the Board of Internal Improvement of the State of North Carolina to the General Assembly, Dec. 10, 1822, together with Mr. Fulton's reports. . . Raleigh, J. Gales & Son, 1822. 72 pp. 23 cm.
Contains general report of the board on examinations and improvements of roads and rivers, and reports of Hamilton Fulton on the works projected and carried on during the year throughout the state. See *Fulton, H.*, No. 607.
1323. — Annual report of the Board for Internal Improvement of North Carolina to the General Assembly, with a statement of their accounts, together with Mr. Fulton's reports on sundry public works. Raleigh, J. Gales & Son, 1824. 38 pp. 23 cm.
See *Fulton, H.*, No. 609.

1324. — Extracts from "Reports on Internal Improvements" in the State of North Carolina, published for the use of the Board of the Literary Fund of North Carolina. Raleigh, T. J. Lemay, 1837. 36 pp. 21½ cm.

Contains: Report of Jonathan Price and Woodson Clemons of sundry surveys made by them between the Roanoke and Pamlico, and the Pamlico and Neuse; report of Hamilton Fulton on drainage of the Brown and White marshes in Bladen and Columbus counties; on a proposed canal from Plymouth to the Pungo river; report of Adanson Nash on the swamp lands east of Clubfoot and Harlow's creek canal and between Albemarle and Pamlico sounds; report of Robert H. B. Brazier on drainage of the Big swamp in Robeson county. *See under authors.*

1325. — Memorial of the Internal Improvement convention to the General Assembly of North Carolina.

N. C. Gen. Assem., Sess. 1838. Doc. No. 13. Raleigh, T. J. Lemay, 1838.

Outlines improvements proposed by the Board of Internal Improvements, and contains report of the Board recommending the same.

1326. — Report of the Board for 1833.

N. C. Gen. Assem., 1833. Ex. Doc. No. 7. Raleigh, Lawrence & Lemay, 1833. 38 pp. 21 cm.

Contains report of David L. Swain on progress and condition of public works of the state, and letter from Hinton James describing operations on the Cape Fear river from 1822 to 1833.

1327. — Report of the Board for Internal Improvement to the General Assembly, Nov. 1821, with Mr. Fulton's reports and other papers in relation to the improvement of the State of North Carolina. Raleigh, J. Gales, 1821, xxviii, 68 pp. 23 cm.

Contains general report of the Board; reports of Hamilton Fulton on examinations and surveys (see Fulton, H., No. 606.). Letter from Denison Olmsted on general geology of North Carolina. *See Olmsted, D., No. 1368.*

1328. — Report of the President and Directors of the Board of Internal Improvement to the Legislature of North Carolina.

N. C. Gen. Assem., Sess. 1838. Doc. No. 12. Raleigh, 1838. 36 pp. 23 cm.

Contains general account of the improvements of rivers and inlets in the state, and as appendix, reports of various surveys and examinations by Jonathan Price, Woodson Clemons, Hamilton Fulton and others. *See extracts from "Reports on Public Improvements" in the State of North Carolina, published for the use of the Literary Fund of North Carolina, No. 1324.*

1329. — Report of the President and Directors of the Board of Internal Improvement to the Legislature of North Carolina. Raleigh, J. Gales & Son, 1839. 39 pp. 22 cm.

Contains account of the various improvements being carried on throughout the state, including those at Ocrake inlet and Beaufort harbor, and New river, and a discussion of the re-opening of Roanoke inlet.

1330. — Reports relative to the swamp lands in North Carolina. Raleigh, Lawrence & Lemay, 1827. 28 pp. 22 cm.
Contains reports on the swamp lands by A. Nash and R. Brazier. See Nash, A., No. 1276.
1331. North Carolina. Board of Literature.
Swamp-lands of the State of North Carolina: facts for emigrants and capitalists. Published by order of the Literary Board. Raleigh, W. E. Pell, 1867. 31 pp. 22 cm.
General description of the swamp lands owned by the literary board in Beaufort, Hyde, Washington, Tyrrell, Craven, Carteret, Onslow, Jones, Brunswick, New Hanover, Columbus, Cumberland, Bladen, Robeson and Richmond counties.
1332. North Carolina. Bureau of Labor Statistics.
First annual report of the inspector of mines for 1897.
(In its 11th Ann. Rept. Raleigh, Guy V. Barnes, 1898. pp. 270-336.)
— Second annual report of the inspector of mines for 1898.
(In its 12th Ann. Rept. Raleigh, Guy V. Barnes, 1899. pp. 341-396.)
Reports of mining and mineral production.
1333. North Carolina copper company.
Min. Mag., Ser. I, v. 1 (1853): 290-292.
Semi-annual report of this company, whose mine is located in Guilford county.
1334. North Carolina. Department of Agriculture.
Annual report of the meteorological division of the N. C. Agric. Exp. Station constituting the North Carolina State weather service for 1889. Raleigh, Edwards & Broughton, 1890. 194 pp. 23 cm.
Summary of meteorological work for the year.
1335. — Climatology of North Carolina.
N. C. Agric. Exp. Station, Meteor. Div., 5th Ann. Rept., 1891. Raleigh, Edwards & Broughton, 1892. 184 pp. 23 cm.
Review: N. C. Univ. Mag., Ser. IV, v. 12 (1893): 172.
Contains sketches of climate and physiography; history of the State weather service, and tables of monthly mean temperature and rainfall from 1820-1892.
1336. — Hand-book of North Carolina. Raleigh, Edwards & Broughton, 1893. 333 pp. 24 cm. Illus. Map.
Written by John D. Cameron for the World's Columbian Exposition. Describes physiography, mineral resources and industries.
1337. — Hand-book of North Carolina. (L. L. Polk, commissioner.) Raleigh, Raleigh News steam book and job print, 1879. 291 pp. 22 cm.
Descriptions, physiographic and geologic of state. Account of climate, timber and mineral resources, with separate descriptions of counties.

1338. — Hand-book of North Carolina, with map of the state. Raleigh, P. M. Hale, 1886. 352 pp. 18½ cm.
 Practically same as edition of 1883. An extract entitled, "North Carolina. General sketch of its surface . . ." 66 pp., was published separately the same year.
1339. — Hand-book of the State of North Carolina, exhibiting its resources and industries. Prepared under the direction of the Board of Agriculture. (M. McGehee, commissioner.) Raleigh, Ashe & Gatling, 1883. 154 pp. 24 cm.
 General description of the state. Treats in detail of the iron ores describing localities, veins and mines. Information is taken from Kerr's "Geology of North Carolina." Notes on mining operations in Lincoln and Gaston counties for 1882. Gold mining briefly outlined by G. B. Hanna. Mines described under counties, giving a few assays. Genth quoted as to copper ores.
1340. — Marls and phosphates.
 (In N. C. Agric. Exp. Station, Ann. Rept. 1886. Raleigh, P. M. Hale, 1887. 23 cm. pp. 49-53.)
 Thirty analyses of marls and thirteen of phosphates from the eastern counties made during the year.
1341. — [Marls and potable waters.]
 (In N. C. Agric. Exp. Station, Ann. Rept. 1889. Raleigh, Edwards & Broughton, 1890. 23 cm. pp. 37-40.)
 Twenty-five analyses of marls, and eighteen of potable waters.
1342. — Marls, limestones and phosphates.
 (In N. C. Agric. Exp. Station, 10th Ann. Rept. Raleigh, Josephus Daniels, 1888. 23 cm. pp. 50-55.)
 Forty-four analyses of marls, limestones and phosphates from the eastern counties.
1343. — North Carolina and its resources. Winston, M. I. & J. C. Stewart, 1896. 413 pp. 24 cm. Illus. Plates. Maps.
 Review: Southern States, v. 4 (1897): 542.
 Historical and general sketch of the state, including climate, forests, geology, building stone industry, economic mineral deposits, gems, waters and waterways, with separate descriptions of each county. Physiography of state is given in detail, with an account of the work of the Geological Survey.
1344. — North Carolina, conditions inviting farming . . . soils and climate. Raleigh, E. M. Uzzell & Co., n. d. 42 pp. 22 cm.
 Contains accounts of soils and climate, and describes thermal belts in Macon, Polk, Buncombe and Henderson counties, citing observations of Silas McDowell and John Leconte.
1345. — North Carolina exhibit at Boston.
 N. C. Dept. Agric., Monthly Bull., Raleigh, 1883. 8 pp. 33 cm.
 A description of North Carolina mineral products exhibited at Boston, Mass.
1346. — [North Carolina weather reports.]
 N. C. Agric. Exp. Station, Meteor. Div. Raleigh, 1890 37 pp. 23 cm.

- — N. C. Agric. Exp. Station, Meteor. Div., Bull. 28-38. Raleigh, 1893. 23 cm.
- — N. C. Agric. Exp. Station, Meteor. Div. Raleigh, 1894. 64 pp. 23 cm.
- — N. C. Agric. Exp. Station, Meteor. Div. Raleigh, 1895. 256 pp. 23 cm.
- — N. C. Agric. Exp. Station, Meteor. Div. Raleigh, 1896. 264 pp. 23 cm.
- — N. C. Agric. Exp. Station, Meteor. Div. Raleigh, 1897. Bull. 76-83. 23 cm.
Yearly weather reports.
1347. ——— [Report of State weather service.]
(In N. C. Agric. Exp. Station, Rept. 1886. Raleigh, 1887. pp. 54-59.)
- — (In N. C. Agric. Exp. Station, 10th Ann. Rept. Raleigh, 1888. pp. 78-112.)
- — (In N. C. Agric. Exp. Station, 11th Ann. Rept. 1888. Raleigh, 1889. pp. 98-121.)
Summaries of meteorological work.
1348. ——— Sketch of North Carolina. Charleston, S. C., 1902. 160 pp. 23 cm.
Deals with North Carolina and its resources, with account of the work of the geological survey. Includes topographic and geologic descriptions of the state and account of mineral resources.
1349. North Carolina diamond.
Eng. & Min. Jour., v. 44 (1887): 22.
Account of diamond found near Dysartville.
1350. North Carolina. Geography, topography and hydrography of North Carolina—soil, products, resources . . . geology.
DeBow's Review, v. 11 (1851): 105-122.
Contains part of a speech by T. L. Clingman on resources of the state, with particular reference to the coal deposits of the Deep River valley.
1351. North Carolina Geological Survey.
Eng. & Min. Jour., v. 63 (1897): 138.
An account of the work accomplished by the Survey up to 1897.
1352. North Carolina gold.
Am. Mineral. Jour., v. 1 (1810): 125.
Notice of a statement received from Mr. Cloud, of the quantity, amount and value of gold received at the mint from North Carolina.
1353. North Carolina gold mines.
Niles' Register, v. 23 (1822): 112; v. 24 (1823): 256; 326; v. 25 (1824): 262; 406; v. 27 (1825): 289; v. 28 (1825): 64; 84; v. 29 (1826): 216; 352; 366; v. 30 (1826): 366; v. 32 (1827): 128; v. 35 (1828): 68; v. 36 (1829): 116; 186; 286; 299; 346; 364; 414; v. 40 (1831): 52; 205-206.
Abstracts: Bull. des Sci. Nat. et de Géol., v. 17 (1829): 369-370; v. 19 (1829): 251-252.
Brief notes on operations at various gold mines.

1354. A North Carolina hydraulic proposition.

Eng. & Min. Jour., v. 67 (1899): 291.

Describes the hydraulic mining in operation on a shallow placer deposit at Marble, in Cherokee county.

1355. North Carolina internal improvement.

Report of chief engineer transmitting reports in relation to the progress of internal improvements in the state.

U. S. 23d Cong., 2d Sess., 1835. House Ex. Doc. No. 59. 9 pp.

Contains reports of George Blaney on improvement of the Cape Fear river below Wilmington, and of T. Dutton on improvement at Ocracoke inlet.

1356. North Carolina Land Co.

Statistical and descriptive account of the several counties of the State of North Carolina. Raleigh, Nichols & Gorman, 1869. 136 pp. 22½ cm.

Contains following letters: On the physical geography and climate, by William B. Rodman; on general advantages and climate, by Wm. E. Pell; on general advantages, by Thomas L. Clingman; on general advantages, by Jonathan Worth; on physical geography, climate and minerals, by D. M. Barringer; on agricultural and mineral resources, by W. C. Kerr; and extracts from various reports describing the swamp lands of the state.

1357. North Carolina mines.

Am. Jour. Mining, v. 3 (1867): 246; v. 4 (1867): 99; v. 5 (1868): 68; 260; 324; 357.

1358. North Carolina mining notes.

Eng. & Min. Jour., v. 28 (1879): 162-163; 240; 278; 315; 362; v. 29 (1880): 173; v. 30 (1880): 193; v. 32 (1881): 341; v. 34 (1882): 86; v. 35 (1883): 138; 152; v. 36 (1883): 346; v. 37 (1884): 129; v. 40 (1885): 188; v. 41 (1886): 217; 238; 254; 362; 433; 452; v. 42 (1886): 12; 66; 192; 300; 462; v. 43 (1887): 66; 102; 281; 318; 444; v. 44 (1887): 31; 102; 138; 300; 353-354; v. 46 (1888): 400-401; 443; 553; v. 49 (1890): 431; 479; 504; 545; 740; v. 50 (1890): 554; 581; v. 51 (1891): 151; 361; 387; v. 52 (1891): 55; 513; 539; 686; v. 55 (1893): 495; 567; v. 56 (1893): 353; 379; 431; 457; v. 57 (1894): 87; 112; 208; 303-304; 327; 490; v. 58 (1894): 87; 615; v. 59 (1895): 374; v. 61 (1896): 383; v. 62 (1896): 206-207; 326; 591; 614-615; v. 63 (1897): 170; 313-314; 409; 581; v. 64 (1897): 617; v. 67 (1899): 125; 390; 420; v. 68 (1899): 498; 589; v. 70 (1900): 619; v. 71 (1901): 189; 286; v. 73 (1902): 499; 773; v. 74 (1902): 62; 461; 561-562; 599; 764; 861.

Brief notes on mining operations at various mines.

1359. North Carolina mining notes.

Mining World, v. 26 (1907): 433; 459; 519; 642; 707; v. 27 (1907): 38-39; 84; 292; 452-453; 655; 946; v. 28 (1908): 349; 540; 1009; v. 29 (1908): 297; v. 30 (1909): 67.

Brief notes on mining operations at various mines.

1360. North Carolina mountains.

Am. Jour. Sci., Ser. II, v. 24 (1857): 277.

List of barometric measurements of twelve of the lofty peaks, made by Prof. Arnold Guyot in July, 1856.

1361. North Carolina mountains.

Appleton's Jour., v. 4 (1870): 465.

Notes on mountain scenery in Caldwell and Watauga counties.

1362. North Carolina tertiary.

Am. Jour. Sci., Ser. II, v. 2 (1871): 75.

Notes on fossil horse discovered near Greenville.

1363. NORTHROP, R. H.

Report on the Pioneer Mills mine of North Carolina. Baltimore, 1860. 8 pp. (*Not seen.*)1364. OLCUTT, E_[BEN] E_[RSKINE].

The Ore Knob copper mine and reduction works, Ashe county, North Carolina.

Am. Inst. Min. Eng., Trans., v. 3 (1875): 391-399.

— — — Eng. & Min. Jour., v. 20 (1875): 260-261.

Discusses occurrence of the ores, veins, gangue and associated minerals. Describes the mine workings and gives analyses of the ores.

1365. OLDMIXON, JOHN.

[Geographical description of Carolina. . .]

(*In his British Empire in America. . . London, 1708. Vol.*

1. 20 cm. pp. 368-381.)

Brief notes on North and South Carolina, climate, soil and products. Dutch edition of this work was published in Amsterdam in 1721.

1366. Oligoclase de Bakersville (?) (North Carolina).

Soc. Min. de France, Bull., v. 13 (1890): 648-652.

Describes crystal, and compares results with those obtained by Penfield & Sperry (Am. Jour. Sci., v. 36 (1888).

1367. OLMSTED, DENISON.

Descriptive catalogue of rocks and minerals collected in North Carolina.

Am. Jour. Sci., Ser. I, v. 5 (1822): 257-264.

Enumerates and describes briefly the rocks and minerals found in the state.

1368. — Letter to the Board of Internal Improvements on the geology of North Carolina.

(*In North Carolina. Board of Internal Improvement. Report to the Gen. Assem. 1821. Raleigh, J. Gales, 1821. 23 cm. pp. 65-67.*)

Advocates investigation of geological and mineral resources of the state, which, as far as is known, is the first suggestion to be offered of a geological survey. Author offers his services to the Board during his university vacations, to make a geological examination of the state, with only sufficient appropriation to pay travelling expenses.

1369. — On the gold mines of North Carolina.

Am. Jour. Sci., Ser. I, v. 9 (1825): 5-15.

— — *Phil. Mag., v. 65 (1825): 375-384.*

Review: *Bost. Jour. Phil. & Arts, v. 2 (1825): 288-289.*

Review by G. Delafosse: *Bull. des Sci. Nat. et de Géol., v. 5 (1825): 413-415.*

Notice: *Leonhard's Zts. f. Min., 1826, Bd. 1, p. 556.*

Describes geological features of the gold region, situated in Montgomery, Anson, Cabarrus, Mecklenburg, Rowan and Randolph counties, and the principal mines: the Anson mine in Anson county, Reed's mine in Cabarrus county, and Parker's mine four miles south of the Yadkin river.

1370. — Red sandstone formation of North Carolina.

Am. Jour. Sci., Ser. I, v. 2 (1820): 175-176.

Describes red sandstone formation in Orange and Chatham counties.

1371. — Report on the geology of North Carolina, conducted under the Board of Agriculture. Raleigh, J. Gales & Son, 1824-1827. 3 vols. 23 *cm.*

Review with extracts: *Am. Jour. Sci., Ser. I, v. 14 (1828): 230-251; Ser. II, v. 19 (1855): 430-433.*

Review with extracts: *Southern Review, v. 1 (1828): 235-261.*

Abstract: *Neues Jahr. f. Min., 1833, pp. 501-502.*

Abstract by A. Boué: *Bull. des Sci. Nat. et de Géol., v. 17 (1829): 38-40.*

Notice: *Geol. Soc. Penn., Trans., v. 1 (1835): 173-174.*

Notice: *Niles' Register, v. 29 (1825): 247.*

Vol. 1 contains Report on geology of North Carolina, pt. 1, by Denison Olmsted. Describes physiographic and geologic features of western North Carolina, its ore deposits, veins and mineral deposits. Vol. 2 contains Report on geology of North Carolina, pt. 2, by Denison Olmsted. Describes rock formations, limestones and marls of eastern North Carolina, and continues the observations on slates and clays begun in pt. 1. Vol. 3 contains Report on geology of North Carolina, pt. 3, by Elisha Mitchell, and Gold mines, by Charles E. Rothe. *See under authors.*

1372. — Thermometrical observations made by President Caldwell, at Chapel Hill, North Carolina, during the years 1820, 1821, 1822. Lat. 35° 54'.

Am. Jour. Sci., Ser. I, v. 10 (1826): 294-295.

Abstract: *Edin. Jour. Sci., v. 6 (1827): 249-250.*

Table of monthly averages of maximum and minimum temperatures.

1373. — Useful minerals in North Carolina.

Am. Jour. Sci., Ser. I, v. 5 (1822): 407.

Notes discovery of an independent coal formation hitherto unobserved in Rockingham, Stokes, Surry and Guilford counties. Mentions deposits of manganese in Surry, and graphite in Stokes county.

1374. On the French Broad river, North Carolina.

Appleton's Jour., v. 4 (1870): 644.

Popular description of the French Broad river from Asheville to the Tennessee line.

1375. [L'or dans la Caroline du Nord.]
L'Institut, v. 14 (1846): 96.
Note on increasing production of gold, mentioning methods in practice at a mine on the Catawba river.
1376. The Ore Knob Copper Company.
Eng. & Min. Jour., v. 29 (1880): 10.
Brief account of the Ore Knob Copper Company's mines in Ashe county.
1377. OSBORN, H[ENRY] F[AIRFIELD].
Observations upon the upper triassic mammals, *Dromatherium* and *Microconodon*.
Acad. Nat. Sci. Phila., Proc., [v. 38] (1886): 359-363.
Abstract: Science, v. 8 (1886): 540.
Abstract: Neues Jahr. f. Min., 1887, Bd. 2. Ref. pp. 363-364.
Detailed description of the type specimens of these forms from Chatham county.
1378. — The triassic mammals, dromatherium and microconodon.
Am. Phil. Soc., Proc., v. 24 (1887): 109-111.
Shows that the two specimens of *Dromatherium* are two distinct genera, *Dromatherium sylvestre* and *Microconodon tenuirostris*.
1379. OSBORNE, JAMES W.
Resources and advantages of North Carolina.
DeBow's Review, v. 7 (1849): 545-547.
Brief account of resources of the state, with notes on iron ore of Lincoln, Catawba, Iredell, Wilkes, Ashe, Surry and Stokes counties and on the gold mines of Stanly and Rowan counties.
1380. OWEN, RICHARD.
Report of a geological examination made on certain lands and mines in the counties of Haywood, Madison, Buncombe, Jackson and Macon, N. C., and in Cocke county, Tennessee. Indianapolis, Indianapolis print. & pub., 1869. 19 pp. 23 cm.
Notes on physical geography, general geology and mining prospects in counties named.
1381. PAGE, W. T.
Examination of auriferous sand from North Carolina.
Chem. News, v. 46 (1882): 205.
Am. Nat., v. 17 (1883): 313.
Abstract by S. L. Penfield. Science, v. 1 (1883): 227.
Abstract by E. W. Prevost. Chem. Soc. (London) Jour., v. 44 (1883): 29.
Description and analysis of this sand from Burke county.
1382. PALMER, W[ALTER] W[ILLIAM] and BUCKLEY, THOMAS C.
Statement of the McCullock copper and gold mining company of Guilford county, North Carolina.
Min. Mag., Ser. I, v. 4 (1855): 282-286.
Statistical and historical report on the McCullock mines, with short sketch of the veins, ores and workings.

1383. Palæotrochis of Emmons.

Am. Jour. Sci., Ser. II, v. 23 (1857): 278; v. 24 (1857): 151.

1384. PARKER, E_[DWARD] W_[HEELER].

Coal _[in North Carolina].

(In U. S. Geol. Survey, Min. Res., 1889-1890. Wash., 1892. p. 234.)

—— ——— (In U. S. Geol. Survey, Min. Res., 1891. Wash., 1893. p. 274.)

—— ——— (In U. S. Geol. Survey, Min. Res., 1892. Wash., 1893. p. 442.)

—— ——— (In U. S. Geol. Survey, Min. Res., 1893. Wash., 1894. p. 328.)

—— ——— (In U. S. Geol. Survey, 16th Ann. Rept., pt. 4 (Min. Res.). Wash., 1895. pp. 153-154.)

—— ——— (In U. S. Geol. Survey, 17th Ann. Rept., pt. 3. Wash., 1896. pp. 462-463.)

—— ——— (In U. S. Geol. Survey, 20th Ann. Rept., pt. 6 (Met. Prod.). Wash., 1899. pp. 446-447.)

—— ——— (In U. S. Geol. Survey, 21st Ann. Rept., pt. 6 (Met. Prod.). Wash., 1901. p. 474.)

—— ——— (In U. S. Geol. Survey, Min. Res., 1900. Wash., 1901. pp. 411-412.)

—— ——— (In U. S. Geol. Survey, Min. Res., 1901. Wash., 1902. pp. 407-408.)

—— ——— (In U. S. Geol. Survey, Min. Res., 1903. Wash., 1904. pp. 490-491.)

—— ——— (In U. S. Geol. Survey, Min. Res., 1904. Wash., 1905. pp. 519-520.)

—— ——— (In U. S. 12th Census, Spec. Rept., Mines & Quarries. Wash., 1905. p. 693.)

—— ——— (In U. S. Geol. Survey, Min. Res., 1906. Wash., 1907. p. 700.)

—— ——— (In U. S. Geol. Survey, Min. Res., 1907, pt. 2. Wash., 1908. p. 156.)

Yearly reports of production.

1385. ——— Mica mining _[in North Carolina].

(In U. S. Geol. Survey, Min. Res., 1893. Wash., 1894. pp. 749; 752.)

Brief notes on progress of mica industry.

1386. ——— The occurrence of corundum and emery _[in North Carolina].

(In U. S. Geol. Survey, Min. Res., 1893. Wash., 1894. pp. 674-678.)

Describes occurrence of corundum in Macon, Jackson and Transylvania counties, mines and methods of mining.

PARTZ, ANGUS D.

Charter and by-laws of the Karriker gold and copper company.

See Leeds and Partz, No. 1064.

1387. — [The Reid mines, North Carolina.]
Min. Mag., Ser. I, v. 3 (1859): 161-168.
 Describes discovery of gold on the Reid property, its present condition and methods of mining.
1388. — [The Rhea and Catha mines.]
Min. Mag., Ser. I, v. 2 (1854): 380-383.
 Describes these two mines, which are the property of the Mecklenburg Gold and Copper Company.
1389. PATTERSON, CARLILE P.
 [Coast survey operations in North Carolina.]
(In U. S. Coast Survey, Rept. 1873. Wash., 1874. pp. 28-32.)
 — — — *(In U. S. Coast Survey, Rept. 1874. Wash., 1875. pp. 22-24.)*
 — — — *(In U. S. Coast Survey, Rept. 1875. Wash., 1876. pp. 33-35.)*
 — — — *(In U. S. Coast Survey, Rept. 1876. Wash., 1877. pp. 31-32.)*
 — — — *(In U. S. Coast Survey, Rept. 1877. Wash., 1878. pp. 26-30.)*
 — — — *(In U. S. Coast & Geod. Survey, Rept. 1878. Wash., 1879. pp. 25-27.)*
 — — — *(In U. S. Coast & Geod. Survey, Rept. 1879. Wash., 1880. pp. 32-35.)*
 — — — *(In U. S. Coast & Geod. Survey, Rept. 1880. Wash., 1881. p. 24.)*
 Yearly reports of progress.
1390. — List of hydrographic sheets [of North Carolina] geographically arranged, registered in the archives of the U. S. Coast Survey, from January, 1835, to July, 1875.
(In U. S. Coast Survey, Rept. 1875. Wash., 1876. Appendix No. 8, pp. 127-129.)
1391. — List of original topographic sheets [of North Carolina] geographically arranged, registered in the archives of the U. S. Coast Survey, from January, 1834, to July, 1875.
(In U. S. Coast Survey, Rept. 1875. Wash., 1876. Appendix 7, pp. 103-105.)
1392. PATTERSON, R. M.
 Ueber die Beschaffenheit und das Vorkommen des Goldes, Platins und der Diamanten in den Vereinigten-Staaten.
Zts. d. deutsch. Geol. Gessel. v. 2 (1850): 60-64.
 A translation of a part of a report from the Philadelphia mint to the Secretary of State giving some historical data on early discoveries of gold and diamonds in North Carolina.
1393. PEALE, ALBERT C.
 Lists and analyses of the mineral springs [of North Carolina].
(In U. S. Geol. Survey, Bull. 32. Wash., 1886. pp. 74-79.)
 Gives list of 66 springs (seven of which are used commercially), in 35 counties. Eighteen analyses are given, most of which are by Charles W. Dabney, Jr.

1394. PECK, JACOB.

Geological and mineralogical account of the mining districts in the State of Georgia, the western part of North Carolina . . . with a map.

Am. Jour. Sci., Ser. I, v. 23 (1833): 1-10.

Abstracts: Neues Jahr. f. Min., 1833, pp. 564-566.

Abstracts: Soc. Géol. de France, Ser. I, v. 5 (1834): 400-401.

Topographical and geological notes on portions of the Smoky mountains and Valley river.

1395. PEGRAM, W. H.

A sketch of Randolph county, N. C., showing its resources and possibilities. Greensboro, Thomas, Reece & Co., 1884. 14 pp. 19 cm.

1396. PEIRCE, BENJAMIN.

[Coast survey operations in North Carolina.]

(In U. S. Coast Survey, Rept. 1867. Wash., 1868. pp. 27-29.)

—— — (In U. S. Coast Survey, Rept. 1868. Wash., 1869. pp. 22-23.)

—— — (In U. S. Coast Survey, Rept. 1869. Wash., 1870. pp. 28-31.)

—— — (In U. S. Coast Survey, Rept. 1870. Wash., 1871. pp. 29-31.)

—— — (In U. S. Coast Survey, Rept. 1871. Wash., 1872. pp. 38-41.)

—— — (In U. S. Coast Survey, Rept. 1872. Wash., 1873. pp. 25-28.)

—— — (In U. S. Coast Survey, Rept. 1873. Wash., 1874. pp. 28-32.)

Yearly reports of progress.

1397. — List of geographical positions [in North Carolina], determined by the U. S. Coast Survey.

(In U. S. Coast Survey, Rept. 1868. Wash., 1869. pp. 210-215.)

1398. — List of hydrographic sheets [of North Carolina], registered in the archives of the U. S. Coast Survey from June, 1865, to January, 1873.

(In U. S. Coast Survey, Rept. 1873. Wash., 1874. Appendix 7, pp. 90-91.)

1399. PENFIELD, S[AMUEL] L[EWIS].

Anthrophyllite from Franklin, Macon county, North Carolina.

Am. Jour. Sci., Ser. III, v. 40 (1890): 394-397.

Notice: Am. Nat., v. 25 (1891): 829.

Description, crystallographic measurements and analysis of anthrophyllite from the dump of the Jenks corundum mine.

1400. — *and* SPERRY, E. S.

[Monazite and oligoclase from North Carolina.]

(In Mineralogical notices. *Am. Jour. Sci., Ser. III*, v. 36 (1888): 322-325.)Abstract by E. S. Dana: *Zts. f. Kryst. u. Min.*, v. 17 (1890): 407; 408.Abstract by B. H. Brough: *Chem. Soc. (London) Jour.*, v. 56 (1889): 356.Abstract: *Am. Nat.*, v. 22 (1888): 1112.Abstract: *Soc. Min. de France, Bull.*, v. 12 (1889): 503; 504.

Description and analysis of monazite crystals from Alexander county, and of oligoclase from Bakersville. Analysis of oligoclase by Mr. Sperry.

1401. PENFIELD, SAMUEL LEWIS *and* PRATT, JOSEPH HYDE.

On the chemical composition of staurolite and the regular arrangement of its carbonaceous inclusions.

Am. Jour. Sci., Ser. III, v. 47 (1894): 81-89.—— — *Zts. f. Kryst. u. Min.*, v. 23 (1894): 64-72.—— — (In Contributions to mineralogy and petrography from the laboratories of the Sheffield Scientific School. Ed. by S. L. Penfield *and* L. V. Pirsson. New York, Scribner, 1901. 23 cm. pp. 207-217.)Notice: *Am. Nat.*, v. 28 (1894): 874; v. 29 (1895): 361.Abstract by B. H. Brough: *Chem. Soc. (London) Jour.*, v. 66, pt. 2 (1894): 142.Abstract by F. Rinne: *Neues Jahr. f. Min.*, 1895, Bd. 2. Min. pp. 418-421.

Description and analysis of staurolite from Burnsville, North Carolina.

1402. PENFIELD, SAMUEL LEWIS.

On the cleavage and parting planes of oligoclase and albite.

(In Mineralogical notes. *Am. Jour. Sci., Ser. III*, v. 48 (1894): 115-118.)Discusses physical properties of a clear glass feldspar from the Hawk mica mine in Mitchell county. Analysis by Mr. Sperry, has been given. (See Penfield *and* Sperry, *Am. Jour. Sci., Ser. III*, v. 36 (1888): 324.)

1403. — On the occurrence and composition of some American varieties of monazite.

Am. Jour. Sci., Ser. III, v. 24 (1882): 250-254.Review by C. A. Tenne: *Neues Jahr. f. Min.*, 1883, Bd. 2. Ref. pp. 165-166.Abstract by H. Baker: *Chem. Soc. (London) Jour.*, v. 44 (1883): 162.Abstract: *Jahresber. d. Chem.*, 1883, pt. 2, p. 1861.Abstract: *Zts. f. Kryst. u. Min.*, v. 7 (1883): 366-367.

Contains description and analysis of monazite from the gold washings of the Brindletown district, Burke county.

1404. — Products of the alteration of corundum.

Science, v. 1 (1883): 430.

Abstract of results of observations made by F. A. Genth, on corundum from North Carolina localities. Notes on the deposits of Madison, Jackson, Iredell, and Burke counties.

PENMAN, JOHN E.

Reports on the Rudisil gold and copper mine at Charlotte, Mecklenburg county, North Carolina.

See Leeds and Penman, No. 1069.

1405. PENNYPACKER, CHARLES H.

About corundum.

Mineral Collector, v. 8 (1901): 36-39.

Brief notes on the occurrence of corundum of North Carolina.

1406. PENROSE, RICHARD ALEXANDER FULLERTON, JR.

Amorphous nodular phosphates of North Carolina.

(In Nature and origin of deposits of phosphate of lime.

U. S. Geol. Survey, Bull. 46. Wash., 1888. pp. 70-75.)

Detailed descriptions of phosphate deposits in Sampson, Duplin, Pender, Onslow, Columbus and New Hanover counties, with tables of analyses. Contains map showing location of phosphate beds in Duplin and Sampson counties.

1407. — North Carolina exhibit at the World's Columbian Exposition in 1893.

Jour. of Geol., v. 1 (1893): 462.

Short sketch of the North Carolina exhibit, which included ores of iron, gold, copper, kaolin, mica, asbestos and many other minerals.

1408. PERRINE, FREDERICK ALUTEN COMBS.

Water-powers of the southeastern Appalachian region.

Am. Inst. Elec. Eng., Proc., v. 24 (1905): 605-616.

Abstract: Eng. Mag., v. 30 (1905): 109-111.

Describes drainage basins of some of the principal rivers including the Cape Fear, Yadkin and Catawba, and outlines resources available for hydraulic purposes.

1409. PERRY, JOHN B.

Sketch of the life of Ebenezer Emmons.

Bost. Soc. Nat. Hist., Proc., v. 12 (1869): 214-216.

Contains a brief sketch of Emmons' connection with the North Carolina Geological Survey.

1410. — Notice of occurrence of cretaceous at Snow Hill in North Carolina.

Am. Nat., v. 5 (1871): 521-522.

Description of cretaceous deposits of peculiar interest discovered by Prof. Kerr at Snow Hill.

1411. PETHERICK, THOMAS.

Report . . . upon the Silver Hill mine, Davidson county, North Carolina.

(In Report of the Silver Hill Mining Co. New York, 1860.

22½ cm. pp. 8-11.)

—— — Min. Mag., Ser. II, v. 1 (1860): 428-431.

Description with longitudinal and transverse sections of the workings of the Silver Hill mine.

1412. PETHERICK, WILLIAM.

Report on the Hepler and College mines in Davidson and Randolph counties, North Carolina. New York. 1854. 2 pp. 21 cm.

Descriptions of these mines.

1413. Petrified forest in Stokes county, North Carolina.

Our living and our dead, v. 1 (1875): 578-579.

Describes this forest, extending from Germantown to the south side of Dan river.

1414. PHALEN, WILLIAM C.

A new occurrence of unakite.

Smithsonian Misc. Coll., v. 45 (1904): 306-316.

Discusses casually and briefly the localities in which unakite is found in North Carolina.

1415. PHELPS, THOMAS S.

Reconnaissance of the Cape Lookout shoals off the coast of North Carolina.

(In U. S. Coast Survey, Rept. 1864. Wash., 1865. Appendix 5, p. 56.)

1416. PHILLIPS, ALEXANDER, LACY.

The physical, political and mathematical geography of North Carolina. Wilson, N. C., Josephus Daniels, 1883. 4 pp. 26 cm.

Brief account of the physiographic features of the state, climate and mineral deposits.

1417. PHILLIPS, CHARLES.

A sketch of Elisha Mitchell.

Elis. Mit. Sci. Soc., Jour., v. 1 (1883): 9-18.

Short biographical sketch of Elisha Mitchell, giving account of his explorations in western North Carolina.

1418. PHILLIPS, CHARLES B.

Examination and survey of inland water routes from Norfolk Harbor, Virginia, to the Atlantic Ocean, south of Hatteras, including communication with Cape Fear river, North Carolina.

(In Chief of Eng. Rept., 1880, pt. 1. Appendix I 17, pp. 851-896.)

—— — U. S. 46th Cong., 2d Sess., 1880. Sen. Ex. Doc. No. 73. 47 pp. Maps.

Describes the Albemarle and Chesapeake canal, the Dismal Swamp canal, Albemarle, Pamlico and Core sounds, and the various outlets therefrom to the ocean south of Hatteras.

1419. — Examination of Catawba river, North and South Carolina.

(In Chief of Eng. Rept., 1880, pt. 1. Appendix I 23, pp. 911-914.)

- — — (In U. S. 46th Cong., 2d Sess., 1880. Sen. Ex. Doc. No. 161, pp. 2-4.)
1420. — Examination of Lockwood's Folly river, North Carolina.
(In Chief of Eng. Rept., 1880, pt. 1. Appendix I 22, pp. 909-910.)
- — — (In U. S. 46th Cong., 2d Sess., 1880. Sen. Ex. Doc. No. 117, pp. 7-8.)
1421. — Examination of the Pedee river from Cheraw, S. C., to the mouth of the Uwharrie river, North Carolina.
(In Chief of Eng. Rept., 1879, pt. 1. Appendix H 16, pp. 723-726.)
- — — (In U. S. 45th Cong., 3d Sess., 1879. House Ex. Doc. No. 68, pp. 16-20.)
1422. — Examination of Waccamaw river, North Carolina.
(In Chief of Eng. Rept., 1880, pt. 1. Appendix I 16, pp. 848-851.)
- — — (In U. S. 46th Cong., 2d Sess., 1880. Sen. Ex. Doc. No. 117, pp. 9-11.)
1423. — Historical sketch of the improvement of the Cape Fear river below the city of Wilmington, North Carolina.
(In Chief of Eng. Rept., 1876, pt. 1. Appendix F 13, pp. 321-331.)
States that the earliest knowledge of this river is obtained from a map of a survey by Edward Moseley in 1733. Describes surveys, charts and improvements made from that date until 1876.
1424. — Improvement of Cape Fear river, North Carolina.
(In Chief of Eng. Rept., 1878, pt. 1. Appendix F 7, pp. 475-495.)
1425. — Improvement of Currituck sound and North river bar, North Carolina.
(In Chief of Eng. Rept., 1879, pt. 1. Appendix H 6, pp. 693-695.)
- — — (In Chief of Eng. Rept., 1880, pt. 1. Appendix I 7, pp. 827-830.)
Reports of progress.
1426. — Improvement of Edenton harbor, North Carolina.
(In Chief of Eng. Rept., 1879, pt. 1. Appendix H 7, pp. 696-698.)
- — — (In Chief of Eng. Rept., 1880, pt. 1. Appendix I 8, pp. 830-831.)
Reports of progress.
1427. — Improvement of Neuse river, North Carolina.
(In Chief of Eng. Rept., 1879, pt. 1. Appendix H 11, pp. 704-710.)
- — — (In Chief of Eng. Rept., 1880, pt. 1. Appendix I 14, pp. 841-844.)
Reports of progress.

1428. — Improvement of North Landing river, Virginia and North Carolina.
(*In* Chief of Eng. Rept., 1880, pt. 1. Appendix I 6, pp. 824-827.)
1429. — Improvement of Pamlico river, North Carolina.
(*In* Chief of Eng. Rept., 1879, pt. 1. Appendix H 10, pp. 703-704.)
— — — (*In* Chief of Eng. Rept., 1880, pt. 1. Appendix I 11, pp. 836-838.)
Reports of progress.
1430. — Improvement of Scuppernong river, North Carolina.
(*In* Chief of Eng. Rept., 1879, pt. 1. Appendix H. 8, pp. 698-699.)
— — — (*In* Chief of Eng. Rept., 1880, pt. 1. Appendix I 9, pp. 831-833.)
1431. — Improvement of Tar river, North Carolina.
(*In* Chief of Eng. Rept., 1879, pt. 1. Appendix H 9, pp. 700-703.)
— — — (*In* U. S. 45th Cong., 3d Sess. House Ex. Doc. No. 68, pp. 28-30.)
— — — (*In* Chief of Eng. Rept., 1880, pt. 1. Appendix I 10, pp. 835-836.)
Reports of progress.
1432. — Improvement of Trent river, North Carolina.
(*In* Chief of Eng. Rept., 1879, pt. 1. Appendix H 12, pp. 711-714.)
— — — (*In* U. S. 45th Cong., 3d Sess., 1879. House Ex. Doc. No. 68, pp. 20-22.)
— — — (*In* Chief of Eng. Rept., 1880, pt. 1. Appendix I 13, pp. 838-841.)
Reports of progress.
1433. — Report of progress on survey for an interior water communication between Norfolk, Va., and the Atlantic Ocean, south of Hatteras.
(*In* Chief of Eng. Rept., 1879, pt. 1. Appendix H 13, pp. 714-716.)
1434. — Survey of Beaufort harbor, North Carolina.
(*In* Chief of Eng. Rept., 1881, pt. 1. Appendix I 13, pp. 1013-1017.)
— — — (*In* U. S. 46th Cong., 3d Sess., 1881. House Ex. Doc. No. 78, pp. 11-14.)
1435. — Survey of Chowan river, North Carolina.
(*In* Chief of Eng. Rept., 1879, pt. 1. Appendix H 17, pp. 726-729.)
— — — (*In* U. S. 45th Cong., 3d Sess., 1879. House Ex. Doc. No. 68, pp. 25-28.)

1436. PHILLIPS, JAMES.

[Meteorological data at Chapel Hill.]

Elis. Mit. Sci. Soc., Jour., v. 1 (1884): 35-37.

Contains tables of monthly and yearly temperatures from 1844-1859, and of the monthly means of the barometer for six years.

1437. PHILLIPS, WILLIAM, BATTLE.

Analysis of crystals of dog-tooth spar from Gander Hall, New Hanover county, North Carolina.

Elis. Mit. Sci. Soc., Jour., v. 2 (1884): 62-63.

Description of these crystals found lining the interior of shells.

1438. — The chlorination of low grade auriferous sulphides.

Am. Inst. Min. Eng., Trans., v. 17 (1888): 313-322.

Describes barrel chlorination process used at the Phoenix mine in Cabarrus county, introduced by Adolph Thies in 1881.

1439. — Coal in western North Carolina.

Eng. & Min. Jour., v. 60 (1895): 612-613.

General discussion of occurrence of coal in Madison county, describing prospecting at the Jack branch.

1440. — Copper deposits of North Carolina.

Eng. & Min. Jour., v. 67 (1899): 382.

Notes on development of copper mining in Person county.

1441. — [Copper in North Carolina in 1899.]

Mineral Industry, v. 7 (1899): 211.

Describes the Holloway and Blue Wing mines in Person county.

1442. — The fertilizer trade in North Carolina in 1886.]

(In U. S. Geol. Survey, Min. Res., 1886. Wash., 1887. pp. 611-617; 619.)

Notes on phosphate and marl deposits in Bladen and Edgecombe counties, with analyses of phosphate rock.

1443. — Mica mining in North Carolina.

(In U. S. Geol. Survey, Min. Res., 1887. Wash., 1888. pp. 661-671.)

Notes on mica industry, the deposits in Mitchell, Yancey, Jackson and Macon counties, mines and mining operations, production and value. Gives list of associated minerals prepared by W. C. Kerr, supplemented by F. A. Genth.

1444. — Mica mining in North Carolina.

Elis. Mit. Sci. Soc., Jour., v. 5 (1888): 73-97.

— — — Eng. & Min. Jour., v. 45 (1888): 286; 306-307; 322-324; 382-383; 398; 418; 436.

— — — Sci. Amer. Suppl., v. 26 (1888): 10449; 10462-10463; 10474-10475.

Describes development of the mica industry in Mitchell county, the mica deposits in Yancey, Mitchell, Buncombe, Haywood, Jackson, Cherokee and Macon counties, their distribution, geological occurrence and associated minerals.

1445. — North Carolina fire-clays.

Eng. & Min. Jour., v. 42 (1886): 326.

Description and analyses of fire-clays from a locality about two miles east of Spout Spring in Harnett county.

1446. — North Carolina phosphates. Wilmington, Mercantile Water-power Press, 1883. 19 pp. 19 cm.
Describes preliminary investigation of phosphate deposits in Duplin county. Detailed account of the rock with chemical analyses.
1447. — North Carolina phosphates.
Elis. Mit. Sci. Soc., Jour., v. 1 (1884): 60-63.
Abstract: Am. Jour. Sci., Ser. III, v. 28 (1884): 75.
Abstract of thesis by the writer. Contains general notes on discovery, distribution and character of phosphate rock in Duplin county. Analyses.
1448. — Report of first assistant geologist.
(In N. C. Gen. Assem., Sess. 1883. Ex. Doc. No. 18, pp. 59-61.)
— The Thies process of treating the low-grade auriferous sulphides. . .
See Thies and Phillips, No. 1768.
1449. — Tin in North Carolina.
Eng. & Min. Jour., v. 43 (1887): 111.
Notes on specimens of cassiterite found at King's Mountain.
1450. Phosphate rock of North Carolina in 1897.
Mineral Industry, v. 6 (1898): 530.
Notes on mining for phosphate rock at Castle Hayne, near Wilmington.
1451. PINCKNEY, THOMAS.
Claims on the lands ceded by North Carolina.
(In Am. State Papers (Public lands, v. 1). Wash., 1832. 6th Cong., 1st Sess., 1800. pp. 102-103.)
Gives the limits of North Carolina by charter previous to adoption of the federal constitution.
1452. [The Pioneer Mills, Rudesill and High Shoals mines.]
Min. Mag., Ser. I, v. 4 (1855): 287.
Describes operations at these mines.
1453. POOL, GASTON.
The North Carolina coast.
Goldthwaite's Geog. Mag., v. 4 (1892): 756-758.
Popular description of the North Carolina coast.
1454. POPE, D. K.
Production of precious metals in North Carolina.
(In U. S. Mint, Prod. of precious metals in U. S. in 1902. Wash., 1903. pp. 189-191.)
— (In U. S. Mint, Prod. of precious metals in U. S. in 1903. Wash., 1904. pp. 112-114.)
— (In U. S. Mint, Prod. of precious metals in U. S. in 1904. Wash., 1905. pp. 167-171.)
— (In U. S. Mint, Prod. of precious metals in U. S. in 1905. Wash., 1906. pp. 104-105.)
Reports of production.

1455. PORTER, JOHN B.

Iron ores of North Carolina.

(*In* Iron ores and coals of Georgia. . . Am. Inst. Min. Eng.,
Trans., v. 15 (1886): 190-191; 206.

Brief account of the Cranberry specular and magnetite
ores in Ashe and Mitchell counties. Table of analyses
of the different ores.

1456. PORTER, TIMOTHY D WIGHT.

Cursory notice of some parts of North and South Carolina.

Am. Jour. Sci., Ser. I, v. 3 (1821): 227-229.

Describes zircon crystals found in Buncombe county.

1457. POURTALES, LOUIS FRANÇOIS DE.

Constitution of the bottom of the ocean off Cape Hatteras.

Bost. Soc. Nat. Hist., Proc., v. 14 (1872): 58-59.

Abstract: Am. Nat., v. 5 (1871): 124-125.

1458. — Effect of winds in varying the level of the water in Albermarle sound.

(*In* U. S. Coast Survey, Rept. 1856. Wash., 1857. Appen-
dix 43, pp. 271-272.)

Brief description of shape and general character of Alber-
marle sound, with table of observations made at Pasquo-
tank light-boat, Caroon's point and Edenton bay, of the
direction of wind and height of the water.

1459. POWELL, GEORGE S.

Memorial to the Congress of the United States from the
Appalachian National Park Association.

Southern Pictures and Pencilings, v. 2, No. 3, 1900.

Describes physical features and climate of the Appalachian
region and gives mountain altitudes.

1460. PRATT, JOSEPH HYDE.

Abrasive materials in North Carolina.

(*In* U. S. Geol. Survey, Min. Res., 1901. Wash., 1902. pp.
793-794; 801; 802-803.)

Abstract by W. S. Bayley: Neues Jahr. f. Min., 1904, Bd. 1.
Min. p. 37.

— — — (*In* U. S. 12th Census, Spec. Rept., Mines & Quarries.
Wash., 1905. pp. 878-879.)

— — — (*In* U. S. Geol. Survey, Min. Res., 1903. Wash., 1904. pp.
1005; 1006.)

— — — (*In* U. S. Geol. Survey, Min. Res., 1905. Wash., 1906. pp.
1069-1085.)

Yearly reports of production of garnet and corundum in
Macon, Jackson, Clay and Madison counties.

1461. — Analysis of North Carolina titanite iron ore.

(*In* Steel hardening metals. U. S. Geol. Survey, Min. Res.,
1903. p. 310.)

Iron ore from Caldwell county.

1462. — Asbestos in North Carolina.

(*In* U. S. Geol. Survey, Min. Res., 1900. Wash., 1901. p.
862.)

- ——— (In U. S. Geol. Survey, Min. Res., 1901. Wash., 1902. pp. 888; 892.)
- ——— (In U. S. Geol. Survey, Min. Res., 1903. Wash., 1904. p. 1113.)
- Notes on occurrence of asbestos in Polk and Yancey counties.
1463. ——— Barytes in North Carolina.
(In U. S. Geol. Survey, Min. Res., 1901. Wash., 1902. p. 916.)
- ——— (In U. S. 12th Census, Spec. Rept., Mines & Quarries. Wash., 1905. pp. 945-949.)
- ——— (In U. S. Geol. Survey, Min. Res., 1903. Wash., 1904. pp. 1089-1093.)
- Describes occurrence and mining of barite in Gaston, Madison and Orange counties in 1901, 1902 and 1903.
1464. ——— Biennial report of the State Geologist for years 1905-1906.
N. C. Geol. Survey, Raleigh, E. M. Uzzell & Co., 1907. 60 pp. 24 cm.
- ——— Biennial report of the State Geologist for years 1907-1908.
N. C. Geol. & Econ. Survey, Raleigh, E. M. Uzzell & Co., 1908. 60 pp. 24 cm.
- Reports of work done by the Geological and Economic Survey during years named. Report for 1907-1908 contains a report on examination of the sand banks along the coast by Jay F. Bond.
1465. ——— Building stones of North Carolina.
Stone, v. 27 (1903): 147-148.
- Notes on building stone production in 1902, principally of granite.
1466. ——— Carolina tin belt.
(In U. S. Geol. Survey, Min. Res., 1903. Wash., 1904. pp. 337-344.)
- Geological description of region in vicinity of King's Mountain, occurrence of the cassiterite veins, with mineralogical and chemical character of the ore. Partial analyses of two varieties of ore by C. W. Dabney.
1467. ——— The chromite deposits of North Carolina.
Eng. & Min. Jour., v. 70 (1900): 190.
- Describes deposits of chromite in Yancey and Jackson counties, and prospecting work which has been done.
1468. ——— Chromite or chromic iron ore in North Carolina.
(In U. S. Geol. Survey, Min. Res., 1901. Wash., 1902. pp. 944; 945-946.)
- Abstract by W. S. Bayley: Neues Jahr. f. Min., 1904, Bd. 1. Min. p. 37.
- Notes on deposits of chromite in Yancey and Jackson counties.
1469. ——— and LEWIS, JOSEPH, VOLNEY.
Corundum and the peridotites of western North Carolina.
N. C. Geol. Survey, Vol. 1. Raleigh, 1905. 464 pp. 26 cm.
Plates. Maps.
- Review by L. V. Pirsson: Am. Jour. Sci., Ser. IV, v. 21 (1906): 253-254.

Review: *Elis. Mit. Sci. Soc., Jour.*, v. 22 (1906): 8-16.

Review: *Min. Mag.*, v. 13 (1906): 427-428.

Abstract by authors: *Geol. Centralblatt*, v. 8 (1906): 487-492.

Describes geology, physiography, distribution and petrography of peridotites of the corundum belt, their modes of alteration and decomposition. Gives mineralogical character and structure, with chemical analyses. Detailed account of corundum is given, its distribution and mode of occurrence, physical properties, alterations and associated minerals, the mines, methods of mining and production. Appendix is a bibliography of American peridotites, corundum and associated minerals.

1470. PRATT, JOSEPH HYDE.

Gems and gem mining in the South.

The Southland, v. 1 (1901): 1-5; 67-71; 118-122.

Describes occurrence of diamonds, corundum gems, several varieties of garnet, and beryl in North Carolina.

1471. — Gold and silver mining in North Carolina.

Mineral Industry, v. 10 (1902): 299-300; v. 11 (1903): 263.

Describes mining industry, naming the Gold Hill mine in Rowan county, and the Russell, Fentress and McMackin mines, as well as other mines in Cabarrus, Mecklenburg, Stanly, Montgomery and Burke counties.

1472. — Gold mining in the southern Appalachians.

Eng. & Min. Jour., v. 74 (1902): 241-242.

Abstract by H. Ries: *Geol. Centralblatt*, v. 5 (1904): 187.

Describes the gold belt as reaching its greatest width in North Carolina, and the mining operations at the principal mines located in Cabarrus, Mecklenburg, Stanly, Montgomery, Burke and Rowan counties.

1473. — Mica in North Carolina in 1902.

(In *U. S. 12th Census, Spec. Rept., Mines & Quarries*, Wash., 1905. pp. 1029-1033.)

Notes on mica localities and mining in 1902, with statistics of production.

1474. — Mica mining in North Carolina.

(In *Mineral Industry*, v. 16 (1908): 713.)

Notes on mica production in 1907.

1475. — A mica vein.

Popular Science, v. 33 (1899): 202-203.

Notes on occurrence of mica and its associated minerals at the Ray mine, Yancey county; Wiseman and Hawk mines, Mitchell county.

1476. — Mineralogical notes on anthophyllite, enstatite and beryl (emerald) from North Carolina.

Am. Jour. Sci., Ser. IV, v. 5 (1898): 429-432.

— — (In *Notes on North Carolina minerals. Elis. Mit. Sci. Soc., Jour.*, v. 14 (1897): 73-80.)

Abstract: *Am. Geol.*, v. 22 (1898): 377.

Notice by W. O. Crosby: *Am. Chem. Research, Rev.*, v. 4 (1898): 125.

Abstract by Leonard, J. Spencer: *Chem. Soc. (London) Jour.*, v. 74, pt. 2 (1898): 606-607.

Abstract by A. S. Eakle: *Zts. f. Kryst. u. Min.*, v. 32 (1900): 594-596.

- Abstract by K. Busz: Neues Jahr. f. Min., 1900, Bd. 1. Min. p. 32.
Describes anthophyllite and beryl from Mitchell county, and enstatite from Macon, Jackson and Clay counties, with analyses by C. W. Baskerville and S. L. Penfield.
1477. — Mineralogical notes on cyanite, zircon and anorthite from North Carolina.
Am. Jour. Sci., Ser. IV, v. 5 (1898): 126-128.
—— (In Notes on North Carolina minerals. Elis. Mit. Sci. Soc., Jour., v. 14 (1897): 72-73; 80-83.)
Abstract by A. S. Eakle: Zts. f. Kryst. u. Min., v. 32 (1900): 589-590.
Abstract by K. Busz: Neues Jahr. f. Min., 1900, Bd. 1. Min. pp. 32-33.
Notice by W. O. Crosby: Am. Chem. Research, Rev., v. 4 (1898): 50.
Descriptions and crystallographic measurements of cyanite from Yancey and Mitchell counties, zircon from Iredell county and anorthite from Clay county. Analysis of anorthite by Dr. Charles Baskerville.
1478. — Minerals for the manufacture of electric and gas lamps. Extracts from special report on same subject U. S. Geol. Survey.
Min. Mag., v. 12 (1905): 152-153.
Describes production of monazite and zircon in North Carolina during 1904.
1479. — [Minerals of North Carolina.]
Mining World, v. 26 (1907): 155-156.
Notes on mining and quarrying industries, including table of mineral production for 1905-1906.
1480. — The mining industry in North Carolina during 1899.
(In North Carolina, Bureau of Labor & Printing, Thirteenth Ann. Rept., 1899. Raleigh, 1900. pp. 304-315.)
—— The mining industry in North Carolina during 1900.
N. C. Geol. Survey, Econ. Paper No. 4. Raleigh, E. M. Uzzell, 1901. 37 pp. 24 cm.
—— The mining industry in North Carolina during 1901.
N. C. Geol. Survey, Econ. Paper No. 6. Raleigh, E. M. Uzzell, 1902. 103 pp. 24 cm.
Review by W. F. Hillebrand: Am. Chem. Research, Rev., v. 9 (1903): 155.
Review: Eng. & Min. Jour. v. 75 (1903): 191.
Abstract by H. Ries: Geol. Centralblatt, v. 5 (1904): 199.
Abstract by W. S. Bayley: Neues Jahr. f. Min., 1904, Bd. 2. Min. pp. 33-34.
Extract: Stone, v. 26 (1903): 30-32; 133-135.
- The mining industry in North Carolina during 1902.
N. C. Geol. Survey, Econ. Paper. No. 7. Raleigh, E. M. Uzzell, 1904. 28 pp. 24 cm.
- The mining industry in North Carolina during 1903.
N. C. Geol. Survey, Econ. Paper. No. 8. Raleigh, E. M. Uzzell & Co., 1904. 74 pp. 24 cm.

- The mining industry in North Carolina during 1904.
N. C. Geol. Survey, Econ. Paper. No. 9. Raleigh, E. M. Uzzell & Co., 1905. 95 pp. 24 cm.
- The mining industry in North Carolina during 1905.
N. C. Geol. Survey, Econ. Paper. No. 11. Raleigh, E. M. Uzzell, 1907. 96 pp. 24 cm.
Extracts: Mining World, v. 26 (1907): 509; 564; 774.
- The mining industry in North Carolina during 1906.
N. C. Geol. Survey, Econ. Paper. No. 14. Raleigh, E. M. Uzzell & Co., 1907. 144 pp. Plates. 24 cm.
Yearly reports of mining and mineral production.
1481. — Mining in North Carolina in 1906.
Min. World, v. 26 (1907): 155-156.
Contains mineral production for 1906.
1482. — Minor mineral products of North Carolina.
Eng. & Min. Jour., v. 86 (1908): 321.
Notes on production of talc in Swain county, and of barite in Madison and Gaston counties.
1483. — and STERRETT, DOUGLAS B.
Monazite and monazite mining in the Carolinas.
Elis. Mit. Sci. Soc., Jour., v. 24 (1908): 61-86.
Describes geographical and geological occurrence of monazite in North Carolina, mining the commercial deposits, production and uses.
1484. PRATT, JOSEPH HYDE.
Monazite in North Carolina.
(In U. S. Geol. Survey, Min. Res., 1901. Wash., 1902. pp. 949-954.)
Abstract by W. S. Bayley: Neues Jahr. f. Min., 1904, Bd. 1. Min. pp. 34-35.
- — In U. S. Geol. Survey, Min. Res., 1902. Wash., 1904. pp. 1003-1006.)
- — (In U. S. 12th Census, Spec. Rept., Mines & Quarries, Wash., 1905. pp. 1037-1039.)
- — (In U. S. Geol. Survey, Min. Res., 1903. Wash., 1904. pp. 1163-1170.)
Abstract: Mineral Collector, v. 9 (1903): 179-184.
Abstract by W. S. Bayley: Neues Jahr. f. Min., 1905, Bd. 2. Min. p. 29.)
1485. — Monazite in the Carolinas.
Mineral Industry, v. 16 (1907): 726-727.
Notes on monazite production during 1907.
1486. — Nickel and cobalt in North Carolina.
(In U. S. Geol. Survey, Min. Res., 1901. Wash., 1902. p. 242.)
— — (In U. S. Geol. Survey, Min. Res., 1902. Wash., 1904. p. 264.)
Notes on occurrence of nickel at Webster, Jackson county and yearly production.

1487. — Notes on North Carolina minerals.

Elis. Mit. Sci. Soc., Jour., v. 14 (1897): 61-83.

— — — (In Mineralogical notes. . . Am. Jour. Sci., Ser. IV, v. 5 (1898): 126-128; 429-432; v. 3 (1897): 443-448.)

Reviews by W. O. Crosby: Am. Geol., v. 23 (1899): 325-326.

Reviews: Am. Chem. Research, Rev., v. 5 (1899): 35-36.

Reviews by Max Bauer: Neues Jahr. f. Min., 1899, Bd. 1. Min. pp. 229-231.

Abstract by Leonard, J. Spencer: Chem. Soc. (London) Jour., v. 78, pt. 2 (1900): 24.

Abstract by A. S. Eakle: Zts. f. Kryst. u. Min., v. 32 (1900): 603-604.

Description, analyses and crystallographic measurements of the following minerals: wellsite and chabazite from Clay county, analyses by H. W. Foote and Charles Baskerville; anorthite from Clay county, analysis by Baskerville; anthophyllite, enstatite and emerald beryl from Mitchell county, analyses by Baskerville and S. L. Penfield; enstatite from Jackson county, cyanite from Yancey county and zircon from Iredell county.

1488. — Occurrence and distribution of corundum in the United States.

U. S. Geol. Survey, Bull. 180. Wash., 1901. 98 pp. 23 cm.

Notice: Frank. Inst., Jour., v. 153 (1902): 450.

Extract: Eng. & Min. Jour., v. 73 (1902): 445.

Abstract by A. Klautsch: Zts. f. prakt. Geol., 1903, pp. 164-165.

Abstract by H. Ries: Geol. Centralblatt, v. 4 (1903): 435.

— Corundum and its occurrence and distribution in the United States. (A revised and enlarged edition of Bull. 180.)

U. S. Geol. Survey, Bull. 269. Wash., 1906. 175 pp. 23 cm.

Abstract by author: Geol. Centralblatt, v. 8 (1906): 487-492.

Describes occurrence of corundum in the southwestern counties of North Carolina, crystallography and chemical composition of the mineral, and commercial and gem varieties. Describes mines, mining operations, production and values.

1489. — The occurrence, origin and chemical composition of chromite, with especial reference to the North Carolina deposits.

Am. Inst. Min. Eng., Trans., v. 29 (1900): 17-39.

Abstract by Leonard, J. Spencer: Chem. Soc. (London) Jour., v. 80, pt. 2 (1901): 64.

Describes the deposits of chrome ores, which exist in a series of peridotite outcrops from Ashe to Clay county, promising localities being at Mine Hill, Yancey county, and at Webster, Jackson county. Analyses of ores by C. W. Baskerville and H. W. Foote.

— On a new mode of occurrence of ruby in North Carolina. With crystallographic notes by J. H. Pratt.

See Judd and Hidden, No. 938.

— On rhodolite, a new variety of garnet.

See Hidden and Pratt, No. 791.

— On the associated minerals of rhodolite.

See Hidden and Pratt, No. 792.

- On the chemical composition of staurolite and the regular arrangement of its carbonaceous inclusions.

See Penfield and Pratt, No. 1401.

1490. — On the occurrence, origin and chemical composition of chromite.

Am. Jour. Sci., Ser. IV, v. 7 (1899): 281-286.

Review: Am. Geol., v. 24 (1899): 181.

Review by M. L. Fuller: Am. Chem. Research, Rev., v. 5 (1899): 74.

Abstract by L^eonard J. S^pencer: Chem. Soc. (London) Jour., v. 76, pt. 2 (1899): 494-495.

Abstract by A. S. Eakle: Zts. f. Kryst. u. Min., v. 34 (1900): 99-100.

Describes occurrence of chromite in Yancey, Jackson and Macon counties, and discusses its origin and chemical composition. Analyses by Charles Baskerville and H. W. Foote.

1491. — On the origin of the corundum associated with the peridotites in North Carolina.

Am. Jour. Sci., Ser. IV, v. 6 (1898): 49-65.

Abstract: Am. Geol., v. 22 (1898): 377-378.

Review by W. O. Crosby: Am. Chem. Research, Rev., v. 4 (1898): 126.

Abstract by L^eonard J. S^pencer: Chem. Soc. (London) Jour., v. 74, pt. 2 (1898): 608.

Abstract by A. S. Eakle: Zts. f. Kryst. u. Min., v. 32 (1900): 596-597.

Abstract by K. Busz: Neues Jahr. f. Min., 1900, Bd. 1. Min. pp. 8-9.

Describes peridotite and corundum deposits, localities and mines, in Buncombe, Clay, Jackson and Macon counties. Discusses in detail the mode of occurrence of corundum, its distribution and origin, and cites the different authorities who have studied the subject.

1492. — On the separation of alumina from molten magmas and the formation of corundum.

Am. Jour. Sci., Ser. IV, v. 8 (1899): 227-231.

Review: Am. Geol., v. 24 (1899): 319-321.

Review by M. L. Fuller: Am. Chem. Research, Rev., v. 5 (1899): 133.

Abstract by L^eonard J. S^pencer: Chem. Soc. (London) Jour., v. 76, pt. 2 (1899): 758-759.

Review by A. Klautzsch: Zts. f. prakt. Geol., 1902, pp. 29-30.

Abstract by A. S. Eakle: Zts. f. Kryst. u. Min., v. 34 (1900): 104-105.

Describes peridotite localities in North Carolina, and discusses in detail the separation of alumina from the peridotites and the formation of corundum.

1493. — On two new occurrences of corundum in North Carolina.

Am. Jour. Sci., Ser. IV, v. 10 (1900): 295-298.

Review: Am. Geol., v. 26 (1900): 393.

Abstract by C. H. Warren: *Am. Chem. Research, Rev.*, v. 6 (1900): 170.

Abstract by A. S. Eakle: *Zts. f. Kryst. u. Min.*, v. 36 (1902): 70.

Abstract: *Soc. Min. de France, Bull.*, v. 23 (1900): 234-235.

Abstract by F. Rinne: *Neues Jahr. f. Min.*, 1901, Bd. 2. *Min.* pp. 349-350.

Describes occurrence of corundum at the Sheffield mine in Cowee township, Macon county, and in the crystalline rocks of the southwestern part of the state. Discusses mode of occurrence, geology of the localities, and mineralogical character.

1494. — On wellsite, a new mineral.

Am. Jour. Sci., Ser. IV, v. 3 (1897): 443-448.

—— — *Zts. f. Kryst. u. Min.*, v. 27 (1897): 581-587.

—— — (*In Contributions to mineralogy and petrography from the laboratories of the Sheffield Scientific School. . . Ed. by S. L. Penfield and L. V. Pirsson. New York, Scribner, 1901. pp. 275-282.*)

Review: *Am. Nat.*, v. 30 (1897): 1046-1047.

Review by W. O. Crosby: *Am. Chem. Research, Rev.*, v. 3 (1897): 116.

Abstract by Leonard J. Spencer: *Chem. Soc. (London) Jour.*, v. 72, pt. 2 (1897): 565.

Abstract by F. Rinne: *Neues Jahr. f. Min.*, 1898, Bd. 1. *Min.* pp. 204-207.

Description and analysis of this mineral from Clay county, collected in 1892 by S. L. Penfield and Joseph Hyde Pratt.

1495. — Peat and swamp lands.

Am. Peat Soc., Jour., v. 2 (1909): 13-17.

Contains notes on drainage of swamp lands in Beaufort county.

1496. — A peculiar iron of supposed meteoric origin from Davidson county, North Carolina.

Elis. Mit. Sci. Soc., Jour., v. 17, pt. 2 (1901): 21-26.

Abstract by W. F. Hillebrand: *Am. Chem. Research, Rev.*, v. 8 (1902): 120.

Abstract by E. Cohen: *Geol. Centralblatt*, v. 3 (1903): 265.

Description of this meteoric iron, with analysis by Charles Baskerville.

1497. — Production of mica in North Carolina.

Eng. & Min. Jour., v. 86 (1908): 94.

Notes on mica production during 1907.

1498. — Production of monazite, zircon, gadolinite and columbite or tantalum minerals.

(*In U. S. Geol. Survey, Min. Res.*, 1904. Wash., 1905. pp. 1209-1227.)

Contains notes on occurrence, production and value of these minerals in North Carolina in 1904.

1499. — Progress of the corundum industry in North Carolina during 1901.
(In Mineral Industry, v. 10 (1902): 16; v. 11 (1903): 16-17.)
 Notes on operations at the Corundum Hill mine, Macon county, and at Buck creek, Clay county.
1500. — and STEEL, A. A.
 Recent changes in gold mining in North Carolina that have favorably affected this industry.
Elis. Mit. Sci. Soc., Jour., v. 23 (1907): 108-133.
 — — — *(In Pratt, J. H. The mining industry in North Carolina during 1906. N. C. Geol. Survey, Econ. Paper No. 14. Raleigh, E. M. Uzzell & Co., 1907. 24 cm. pp. 19-34.)*
 Description of methods of gold mining in use, with account of changes recently introduced.
1501. PRATT, JOSEPH HYDE.
 Report on the property of the Person consolidated copper and gold mine company, situated in Person county, North Carolina. n. p. 1904? 18 pp. 22 cm.
 Geological and mineralogical description of this property.
1502. — The South Mountain gold region of North Carolina.
Mining & Metallurgy, v. 24 (1901): 108; 134-135.
 Describes geology and gold deposits of South Mountain gold region, located in Rutherford, McDowell and Burke counties, mining and development operations, with notes on the principal mining properties.
1503. — The southern Appalachian forest reserve.
Elis. Mit. Sci. Soc., Jour., v. 21 (1905): 156-164.
 Discusses forest conditions in western North Carolina in relation to the proposed southern Appalachian forest reserve.
1504. — Talc and pyrophyllite deposits in North Carolina.
N. C. Geol. Survey, Econ. Paper No. 3. Raleigh, E. M. Uzzell, 1900. 29 pp. 24 cm.
 Abstract by W. S. Bayley: *Neues Jahr. f. Min., 1902, Bd. 1. Min. pp. 12-18.*
 Abstract by Leonard, J. Spencer: *Chem. Soc. (London) Jour., v. 82, pt. 2 (1902): 407-408.*
 Discusses talc deposits of the state in general, outlining origin and character, and gives analyses of specimens from the Kinsey, Hewitt and Malby mines.
1505. — Talc and soapstone in North Carolina.
(In U. S. Geol. Survey, Min. Res., 1900. Wash., 1901. pp. 779-782.)
 Notice by W. F. Hillebrand: *Am. Chem. Research, Rev., v. 8 (1902): 129.*
 — — — *(In U. S. Geol. Survey, Min. Res., 1901. Wash., 1902. pp. 773-777.)*
 Abstract: *Stone, v. 24 (1902): 145-149.*
 Abstract by H. Ries: *Geol. Contralblatt, v. 5 (1904): 256.*

- ——— (*In* U. S. 12th Census, Spec. Rept., Mines & Quarries. Wash., 1905. pp. 1061-1065.)
- ——— (*In* U. S. Geol. Survey, Min. Res., 1903. Wash., 1904. pp. 980-981.)
- ——— (*In* U. S. Geol. Survey, Min. Res., 1905. Wash., 1906. p. 1364.)
 Notes on talc and soapstone deposits and mining in Swain, Cherokee, Jackson and Madison counties. Table of analyses by Charles Baskerville.
1506. ——— and STERRETT, DOUGLAS B.
 The tin deposits of the Carolinas.
 N. C. Geol. Survey, Bull. 19. Raleigh, E. M. Uzzell & Co., 1904. 64 pp. 24 cm. Maps.
 Review: Am. Jour. Sci., Ser. IV, v. 20 (1905): 75.
 Review by W. F. Hillebrand: Am. Chem. Research, Rev., v. 11 (1905): 455.
 Describes tin belt in Cleveland, Gaston and Lincoln counties, geological formations, occurrence, mineralogical and chemical character of the ore, mines and prospects, production and economic values.
1507. PRATT, JOSEPH HYDE.
 Tungsten, molybdenum, uranium and vanadium.
 (*In* U. S. Geol. Survey, 21st Ann. Rept., pt. 6 (Met. Prod.). Wash., 1901. pp. 303; 310; 311; 314; 315.)
 Describes scheelite found in Cabarrus county: uraninite, guminite and uranophane from Flat Rock, with analyses by W. F. Hillebrand, F. A. Genth and H. von Foullon.
- Twinned crystals of zircon from North Carolina.
See HIDDEN and PRATT, No. 796.
1508. PRATT, NATHANIEL ALPHEUS.
 Ashley river phosphates. History of the marls of South Carolina, and of the discovery and development of the native bone phosphates of the Charleston basin. Phila., Inquirer Book & Job Print, 1868.
 Describes in detail the geology of these marl beds, with references to the marls of North Carolina.
1509. PRESBREY, FRANK S.
 The land of the sky and beyond. [New York, 1904.] 32 pp. 24 cm.
 Describes western North Carolina scenery.
1510. ——— The land of the sky. Asheville plateau. New York, S. R., 189-? 32 pp. 24 cm.
 Description of Asheville plateau.
1511. ——— The land of the sky. Western North Carolina. R. & D. R. R., [1894]. 14 pp. (*Not seen*).
 Descriptive of western North Carolina scenery.
1512. The present status of the movement for the proposed forest reserve in the southern Appalachians.
 (Appendix E to Roosevelt, T. Message from the President transmitting a report of the Secretary of Agriculture in

relation to the forests, rivers and mountains of the southern Appalachian region. U. S. 57th Cong., 1st Sess. Sen. Ex. Doc. No. 84. Wash., 1902. pp. 155-192.)

Contains memorials and resolutions favoring the proposed Appalachian forest reserve.

1513. PRESSEY, HENRY ALBERT.

Hydrography of the southern Appalachian mountain region.

U. S. Geol. Survey, Water-supply & Irrig. Papers, Nos. 62 & 63. Wash., 1902. 190 pp. 23 cm. Illus. Maps.

Notice: Am. Geog. Soc., Bull., v. 34 (1902): 431-432.

Abstract: Forestry & Irrigation, v. 8 (1902): 335-340.

Region described includes the mountainous districts of North Carolina. Gives physiography of the country, geology, climate, and account of mineral and timber resources. Detailed descriptions of the rivers, their tributaries and drainage basins, comprising the Holston, Watauga, Nolichucky, French Broad, Catawba, Yadkin and New rivers.

1514. ——— and MYERS, E. W.

Hydrography of the southern Appalachians.

(Appendix C to Roosevelt, T. Message from the President, transmitting a report of the Secretary of Agriculture in relation to the forests, rivers and mountains of the southern Appalachian region. U. S. 57th Cong., 1st Sess. Sen. Doc. No. 84. Wash., 1902. pp. 123-142.)

Describes physiographic features of the Appalachians in western North Carolina, the rivers, their tributaries and drainage basins.

1515. PRICE, JONATHAN and CLEMONS, WOODSON.

Reports of sundry surveys made between the Roanoke and Pamlico, and the Pamlico and Neuse.

(In Reports of sundry surveys made in obedience to certain resolutions of the General Assembly passed in 1817. Raleigh, T. Henderson, 1818. 22 cm. pp. 29-39.)

——— (In North Carolina. Board of Internal Improvement. Extracts from "Reports on public improvements" in the State of North Carolina. Raleigh, T. J. Lemay, 1837. pp. 3-8.)

Reports on surveys made between the Roanoke and Tar rivers from Washington on the Pamlico to the mouth of Smithwick's creek on the Roanoke; between the Roanoke at Plymouth to the boatable waters of Pungo river.

PRICE, JONATHAN.

Survey of the coast of North Carolina.

See Coles and Price, No. 337.

1516. PRINDLE, LOUIS MARCUS.

Note on an apatite crystal from Alexander county, North Carolina.

Johns Hopkins Univ. Circ., v. 13, No. 112 (1894): 83.

Description and crystallographic measurements of a transparent, doubly terminated apatite crystal, from the hiddenite locality.

PROCTER, CHARLES A.

Copper district of Tennessee, Georgia, North Carolina and Virginia—its history—geography—geology and mining interests.

See Currey and Procter, No. 422.

1517. [Production of precious metals in North Carolina in 1906.]
(In U. S. Mint, Prod. of the precious metals in U. S. in 1906. Wash., 1908. p. 63.)
1518. Projected branch mint of North Carolina.
Am. Jour. Sci., Ser. I, v. 20 (1831): 401-404.
 Discussion of advantages to be attained by establishing a branch mint, citing the importance of the gold mines and all that may be gained by ascertaining the value of the gold at home.
1519. Prospectus and by-laws of the Rhymer gold mining company.
 New York, W. H. Arthur, 1854. 20 pp. 22 cm. Map.
 Contains reports of Stephen P. Leeds and A. K. Eaton on the Rhymer gold mine, located in Rowan county.
1520. Prospectus of the Aberdeen company of Guilford county, North Carolina. New York, W. E. & J. Sibell, 1854. 15 pp. 22 cm.
 Contains reports of James T. Hodge on the Aberdeen property in Guilford county, and of Amos K. Eaton on the Gold Hill sands.
1521. Prospectus of the Bessemer City mining and manufacturing company, Bessemer City, N. C. n. p., n. d. 12 pp. 23 cm.
 Notes on mines and mining, with analyses of ores.
1522. Prospectus of the new Phenix gold mining company of North Carolina. [New York, 1856.] 11 pp. 22 cm.
 Contains report of Charles T. Day on this property in Cabarrus county.
1523. Prospectus of the North Carolina copper mine. Report of the Geological Survey and condition of the Baltimore and North Carolina copper and gold mine, Mecklenburg county, N. C. Baltimore, 1860. 12 pp. (*Not seen.*)
1524. Prospectus. Long Creek gold mines, Gaston county, N. C. N. C. Geol. Survey. 3 pp. 33 cm.
 Describes these mines, veins, workings, etc.
1525. Prospectus. The North Carolina Steel and Iron Company, Greensboro, N. C., 1890. Greensboro, Thomas Brothers, 1890. 30 pp. 24 cm. Map.
 Contains extracts from various geological reports, and a report by Frederick H. Smith on the various mining properties of this company, with several analyses.
1526. Prospectus, reports of geologists . . . of the Rowan gold and copper mining company, Rowan county, North Carolina. Baltimore, J. F. Wiley, 1860. 15 pp. 21½ cm.
 Contains extracts from reports of Stephen P. Leeds, F. A. Genth and E. B. Wilder on the Rowan gold mine property in Rowan county.

1527. Quarrying granite with compressed air in North Carolina.
Stone, v. 27 (1907): 79.
1528. QUINN, JAMES B.
Improvement of Edenton bay, North Carolina.
(*In* Chief of Eng. Rept., 1900, pt. 2. Appendix M 9, pp. 1780-1781.)
1529. ——— Improvement of inland water route from Norfolk, Virginia, to Albemarle sound, North Carolina, through Currituck sound.
(*In* Chief of Eng. Rept., 1900, pt. 2. Appendix M 8, pp. 1778-1780.)
——— (In Chief of Eng. Rept., 1901, pt. 2. Appendix K 8, pp. 1457-1459.)
——— (In Chief of Eng. Rept., 1902, pt. 2. Appendix L 10, pp. 1122-1124.)
Reports of progress.
1530. ——— Improvement of Roanoke river, North Carolina.
(*In* Chief of Eng. Rept., 1900, pt. 2. Appendix M 10, pp. 1782-1783.)
——— (In Chief of Eng. Rept., 1901, pt. 2. Appendix K 10, pp. 1461-1462.)
——— (In Chief of Eng. Rept., 1902, pt. 2. Appendix L 12, pp. 1125-1126.)
Reports of progress.
1531. ——— Improvement of waterway from Norfolk, Virginia, to the sounds of North Carolina.
(*In* Chief of Eng. Rept., 1900, pt. 2. Appendix M 7, pp. 1773-1777.)
——— (In Chief of Eng. Rept., 1901, pt. 2. Appendix K 7, pp. 1455-1457.)
——— (In Chief of Eng. Rept., 1902, pt. 2. Appendix L 9, pp. 1120-1122.)
Reports of progress.
1532. RABORG, W. A.
Corundum in North Carolina in 1886.
(*In* U. S. Geol. Survey, Min. Res., 1886. Wash., 1887. pp. 585-586.)
Notes on corundum from the Corundum Hill mine near Franklin, Macon county.
1533. RAMMELSBERG, CARL FRIEDRICH.
Die chemische Natur der Meteoriten. Berlin, 1879. 64 pp. 28 cm.
Includes analyses of the following North Carolina meteorites: Madison county, Nash county, Hominy Creek, Rockingham county.
1534. ——— Samarskit von Mitchell county, North Carolina.
Zts. d. deutsch. Geol. Gesell., v. 29 (1877): 817-818.

- — Am. Jour. Sci., Ser. III, v. 15 (1878): 220-221.
 —— — (In Ann. d. Phys. u. Chem., v. 238 (1877): 663.)
 Abstract: Neues Jahrb. f. Min., 1878, p. 529.
 Abstract by Henry Watts: Chem. Soc. (London) Jour., v. 34 (1878): 944.
 Contains analysis.
1535. — Ueber die chemische Natur des Stauroliths.
 K. preuss. Akad. d. Wiss. Sitz., 1894. pp. 435-438.
 —— — Neues Jahrb. f. Min., Beil. Bd., v. 9 (1894): 480-484.
 Includes for purposes of comparison analyses by F. A. Genh of staurolite from the Culsagee mine (1) and from Burnsville (2), North Carolina.
1536. RAND, THEO. D.
 Mica in North Carolina.
 Frank. Inst., Jour., v. 79 (1880): 190-192.
 A brief general discussion of mica, with reference to the mines of western North Carolina.
1537. Rare and precious stones of western North Carolina.
 Asheville Pictures and Pencilings, v. 1, No. 1, 1898.
 Notes on some North Carolina gems.
1538. RATH, GERHARD VOM.
 Einige neue Flächen am Quarz.
 (In Mineralogische Notizen. Festschrift des Vereins f. Naturkunde zu Cassel, 1886. pp. 98-105.)
 Abstract: Min. Mag. & Jour. Min. Soc., v. 7 (1887): 43.
 Abstract by Max Bauer: Neues Jahrb. f. Min., 1887, Bd. 2. Ref. pp. 247-249.
 Describes quartz crystal from Alexander county.
1539. — Einige neue und seltene Flächen an Quarzen aus der Sammlung des Herrn Wilh. Carl Hidden.
 Zts. f. Kryst. u. Min., v. 12 (1887): 453-459.
 Abstract by Streng: Neues Jahrb. f. Min., 1888 Bd. 2. Ref. pp. 389-390.
 Detailed crystallographic description of a number of quartz crystals from the Hidden collection (Alexander, Catawba, Iredell and Burke counties) showing rare and new crystal faces and rare twinning forms.
1540. — Quarze aus Burke county, Nord-Carolina.
 (In Mineralogische Mittheilungen. Zts. f. Kryst. u. Min. v. 10 (1885): 475-487.)
 Abstract by Fr. Rinne: Neues Jahrb. f. Min., 1887, Bd. 2. Ref. pp. 475-487.
 Detailed crystallographic description of a number of quartz crystals showing rare crystal faces and modes of twinning collected in Burke county by J. A. D. Stephenson.
1541. — Quarze aus Nord-Carolina.
 (In Mineralogische Notizen. Naturh. Vereins d. preuss. Rheinl. u. Westf., Verh., 1884. pp. 290-324.)
 —— — (In Mineralogische Mittheilungen. Zts. f. Kryst. u. Min. v. 10 (1885): 156-173.)

Abstract: *Min. Mag. & Jour. Min. Soc.*, v. 6 (1885): 146-147.

Abstract by F. Rinne: *Neues Jahr. f. Min.*, 1887, Bd. 2. Ref. pp. 242-245.

Detailed crystallographic description of quartz crystals from Burke, Alexander, Catawba and Iredell counties, showing new crystal faces and rare forms of twinning.

1542. — Die Quarze aus Nord-Carolina.

Naturh. Ver. d. preuss. Rhein. Westf. Verh., v. 42 (1885): 59-60; 235-245.)

Brief note of amethystine quartz from Burke county, and crystallographic description of quartz crystals from White Plains, Alexander county.

1543. — Ueber Beryl, Monazite, Xenotime, Apatit, Spodumene, Turmalin und Rutil von Alexander county, North Carolina.

Niederr. Ges. f. Natur. u. Heilk., Sitz., 1886. pp. 67-68; 149-158; 254-256.

Abstract by C. Hintze: *Zts. f. Kryst. u. Min.* v. 13 (1887): 595-598.

Abstract by Max Bauer: *Neues Jahr. f. Min.*, 1888, Bd. 1. Ref. pp. 21-22.

Abstract: *Am. Jour. Sci.*, Ser. III, v. 33 (1887): 159-161.

Crystallographic descriptions of these minerals from the Hiddenite mine.

1544. RAYMOND, ROSSITER, WORTHINGTON.

The Jenks corundum mine, Macon county, North Carolina.

Am. Inst. Min. Eng., Trans., v. 7 (1878): 83-90.

Review by G. H. Höfer: *Neues Jahr. f. Min.*, 1880, Bd. 2. Min. p. 302.

Abstract by HENRY, WATTS: *Chem. Soc. (London) Jour.*, v. 40 (1881): 540.

Quotes and discusses views of Kerr, C. D. Smith and Genth on the formations and conditions found at this locality. Discusses origin of corundum and associated minerals, and includes analyses of specimens from Webster and Culsagee by Genth and Chatard.

1545. READ, THOMAS T.

Gold mining in the southern Appalachians.

Mining Reporter, v. 52 (1905): 390-391.

Notes on the gold mines and mining in North Carolina, naming the Iola mine where cyanidation is being practiced with success.

1546. REDFIELD, WILLIAM C.

Fossil shells from tertiary marl beds at Washington, Beaufort county, North Carolina.

Am. Jour. Sci., Ser. I, v. 41 (1841): 161.

— — — *Assoc. Am. Geol.*, Repts. of 1st, 2d & 3d meet. (1843): 14.

Describes these specimens.

1547. — On the relations of the fossil fishes of the sandstone of Connecticut and other Atlantic states to the Liassic and Jurassic periods.

Am. Assoc. Adv. Sci., Proc., 10th meet. (1856): 180-188.

— — — *Am. Jour. Sci.*, Ser. II, v. 22 (1856): 357-363.

States that fossil forms of Emmons from North Carolina seem identical with those from Connecticut and New Jersey.

1548. REED, FRANKLIN W.

Report on an examination of a forest tract in western North Carolina.

U. S. Dept. Agric., Bureau of Forestry, Bull. No. 60. Wash., 1905. 29 pp. Map.

Contains notes on geological formations, topography and soils.

1549. REED, W. H.

Mica: its modes of occurrence and uses. North Carolina.

Mining Reporter, v. 43 (1901): 59-61.

Brief account of mica mining in Mitchell and Yancey counties.

1550. REESE, CHARLES L.

Analysis of pinite from Madison county, North Carolina.

Chem. News, v. 50 (1884): 209.

Abstract by D. A. Louis: Chem. Soc. (London) Jour., v. 48 (1885): 130.

1551. Region de l'or dans la nouvelle Caroline.

Niles' Register, 1829. pp. 84; 136.

Abstract: Bull. des Sci. Nat. et de Géol., v. 20 (1830): 88-89.

Notes on discovery and working of gold mines in Cabarrus, Mecklenburg, Rutherford, Burke, Lincoln, Rowan, Anson, Davidson, Montgomery, Randolph, Caswell and Guilford counties. Notes occurrence of barite in two gold mines.

1552. REID, CHARLES SLOAN.

An ascent of Mt. Mitchell.

Appalachia, v. 8 (1897): 232-235.

Description of this ascent with notes on the life and death of Ellsha Mitchell.

REID, CHRISTIAN.

The mountain region of North Carolina.

See Tiernan, F. C. F., No. 1777.

1553. REINHARDT, D.

Gold mines of North Carolina.

Am. Jour. Sci., Ser. I, v. 16 (1829): 360-363.

A letter to Denison Olmsted describing the gold region.

1554. Report of the North Carolina Gold Mining Company. New York,

Kneeland, 1853. 12 pp. 22½ cm.

Contains report of James Renwick on the Charlotte mine in Mecklenburg county, and letter from Charles Wilkes describing the property, with analyses of the ore by James R. Chilton.

1555. Reports of sundry surveys made in obedience to certain resolutions of the General Assembly passed in the year 1817, and submitted to the General Assembly at their session in 1818.

Raleigh, T. Henderson, 1818. 40 pp. 22½ cm.

Contains: Report of A. D. Murphey for the Committee on Surveys; report of Joseph Caldwell and Ellsha Mitchell on levels and surveys taken at points on the Yadkin river; report of William Terry on the same; report of H. Jennings and John Hixson on same; report of Jonathan Price and Woodson Clemons on sundry surveys made by them between the Roanoke and Pamlico, and the Pamlico and Neuse. (See Price and Clemons, 1515); report of W. Terry on the Cape Fear river.

1556. RICHARDS, T. ADDISON.
The landscape of the South.
Harper's Mag., v. 6 (1853): 721-733.
Popular account of scenery in the Blue Ridge and Smoky mountains.
1557. RICHARDSON, J. E.
Garnets.
Mineral Collector, v. 2 (1895): 1-4.
Mentions occurrence of garnets at Bakersville.
1558. RICHTER, C. LUDWIG.
Remarks on the gold in the Vanderburg mine, North Carolina.
Min. Mag., Ser. I, v. 2 (1854): 309-310.
Discusses the ores of this mine.
1559. RICKETTS, PIERRE] DEPEYSTER].
Certain ores from North Carolina.
N. Y. Acad. Sci., Trans., v. 2 (1883): 149-150.
Notes on occurrence of gold ores in Montgomery county, and copper ores in Person and Granville counties.
1560. RIES, HEINRICH.
Clay deposits and clay industry in North Carolina.
N. C. Geol. Survey, Bull. 13. Raleigh, Guy V. Barnes, 1897.
157 pp. 24 cm. Plates.
Reviews: Jour. of Geol., v. 6 (1898): 545-547.
Reviews: Am. Geol., v. 22 (1898): 382.
Reviews by W. O. Crosby: Am. Chem. Research, Rev., v. 4 (1898): 133.
Reviews: Eng. & Min. Jour., v. 66 (1898): 33.
Discusses origin, chemical and physical properties of the clay deposits, their geographical and geological occurrence and describes the clay industry of the state.
1561. ——— [Clay in North Carolina in 1892.]
Mineral Industry, v. 2 (1893): 201.
1562. ——— The clays of the United States east of the Mississippi river.
U. S. Geol. Survey, Prof. Paper No. 11. Wash., 1903.
289 pp. 30 cm.
Contains many references to the clay and kaolin deposits of North Carolina, with detailed account, p. 198. Includes tables of chemical analyses.
1563. ——— [Clay-working industry in North Carolina in 1897.]
(In U. S. Geol. Survey, 19th Ann. Rept., pt. 6. (Non-metallic Products.) Wash., 1898. pp. 478-485.)
1564. ——— North Carolina [clays].
(In his Clays, their occurrence, properties and uses. New York, John Wiley & Sons, 1906. 24 cm. pp. 382-388.)
Brief description of the clay deposits with tables of analyses.
1565. RIGGS, R. B.
Residual deposits from subaerial decay of chlorite schist from eight miles west of Cary, North Carolina.
(In U. S. Geol. Survey, Bull. 52. Wash., 1889. p. 13.)

- — — (In U. S. Geol. Survey, Bull. 148. Wash., 1897. p. 289.)
 — — — (In U. S. Geol. Survey, Bull. 168. Wash., 1900. p. 292.)
 — — — (In U. S. Geol. Survey, Bull. 228. Wash., 1904. p. 354.)
 Analysis of this rock.
1566. — — — [Tourmaline from Alexander county, North Carolina.]
 (In U. S. Geol. Survey, Bull. 55. Wash., 1889. pp. 28;
 29; 30.)
 Description and analysis of black tourmaline crystals
 from the Hiddenite mine, Stony Point.
1567. Roanoke inlet at Nag's Head, North Carolina.
 U. S. 29th Cong., 1st Sess., 1846. Repts. of Committees,
 v. 2. Rept. No. 251. 34 pp.
 Contains report of Campbell Graham on survey of Nag's
 Head, and report of Walter Gwynn on same made in 1840.
 See Gwynn, W., No. 689.
1568. Roanoke inlet, North Carolina. Report of survey.
 U. S. 20th Cong., 2d Sess., 1829. House Ex. Doc. No. 128.
 24 pp.
 — — — U. S. 22d Cong., 1st Sess., 1832. Repts. of Committees,
 v. 3. Rept. No. 417. 34 pp.
 Contains report by Hartman Bache on practicability of
 opening communication from Albemarle sound to the At-
 lantic by way of Roanoke inlet, and report of Hamilton
 Fulton made in 1820. *See Fulton, H., 610.*
1569. ROBERTS, J. C.
 Examination of iron ores from Chapel Hill mine.
 Elis. Mit. Sci. Soc., Jour., v. 1 (1884): 26-27.
 Analyses of eight specimens of iron ore from this mine.
1570. ROBINSON, H[ENRY] H[OLLISTER].
 On octahedrite and brookite from Brindletown, North Caro-
 lina.
 Am. Jour. Sci., Ser. IV, v. 12 (1901): 180-184.
 — — — Zts. f. Kryst. u. Min., v. 35 (1902): 425-429.
 Abstract by F. Rinne: Neues Jahr. f. Min., 1903. Bd. 1. Min.
 p. 21.
 Crystallographic description and measurements of octahe-
 drite and brookite from the north slope of Pilot mountain
 near Brindletown, Burke county.
1571. ROBINSON, SAMUEL.
 [A list of North Carolina mineral localities.]
 (In his Catalogue of American minerals with their locali-
 ties. Boston, Cummings, Hilliard & Co., 1825. 23 cm.
 pp. 210-220.)
1572. ROCKWELL, E. F.
 [Notice of] an ancient map of the central part of Iredell
 county, North Carolina.
 The Historical Magazine, Ser. II, v. 2 (1867): 84-90.
 An account of this map drawn with a pen, date unknown.
 Center of map is about 2 miles northwest of Statesville
 and it contains Rocky creek, Catawba river, Snow creek,
 South Yadkin and other creeks and tributaries.

1573. ROCKWOOD, CHARLES GREENE, JR.

Notices of recent earthquakes. No. 5.

Am. Jour. Sci., Ser. III, v. 9 (1875): 331-334.

Notice of earthquake disturbances commencing on Feb. 10, 1874, at Bald and Stone mountains in McDowell county.

1574. RODGERS, C. R. P.

[Re-survey of Beaufort, North Carolina.]

(In U. S. Coast Survey, Rept. 1857. Appendix 16. Wash., 1858. pp. 152-153.)

1575. ROGERS, HENRY DARWIN.

Fossils of the mesozoic belts of Virginia and North Carolina.

(In his Geology of Penn. v. 2, pt. 2. Phila., Lippincott, 1858. 32 cm. pp. 695-697; 761; 764; 768-769; 772; 774.)

Describes mesozoic fossil plants found by E. Emmons in the rocks of the Deep and Dan River districts; the Jurassic coal-formation extending from the Tar river irregularly to the Wateree river with its characteristic fossils; the eocene outcrops in vicinity of Cape Fear river; the pliocene and pleistocene beds of the Coastal district and the recent tertiary beds on the Neuse river with their organic remains.

1576. — [Geology of North Carolina.]

(In Report on the geology of North America. Pt. 1.

Brit. Assoc. Adv. Sci., Rept. 1834. pp. 1-66.)

Notes on tertiary formation, pp. 40; 43. Describes the deposits and fossils and mentions the ferruginous sand occurring at Ashwood on the Cape Fear river.

1577. — On the geology and physical geography of North America.

Min. Mag., Ser. I, v. 8 (1857): 417-424; v. 9 (1857): 45-51; 514-522.

Abstract: Roy. Inst. Great Britain, Proc., v. 2 (1858): 167-187.

Treats in a general way of the physical features of the Appalachians in North Carolina, the Blue Ridge and Smoky mountains. Geologic notes on the Coastal Plain.

1578. ROGERS, WILLIAM BARTON.

[Age of Deep River coal.]

Am. Acad. Arts & Sci., Proc., v. 3 (1852): 69.

Considers age of coal is the same as that of eastern Virginia, as the lithological and topographical characters are the same, with similar fossils.

1579. — [Description of new red sandstone strata of North Carolina.]

Am. Jour. Sci., Ser. I, v. 43 (1842): 171-172.

— — — Assoc. Amer. Geol., Repts. of 1st, 2d, & 3d meet. (1843): 64-66.

Remarks corroborating views of H. D. Rogers in regard to new red sandstone strata.

1580. — [Meteoric stone from Ashe county, North Carolina.]

Assoc. Am. Geol., Repts. of 1st, 2d, & 3d meet. (1843): 63.

— — — Am. Jour. Sci., Ser. I, v. 43 (1842): 169.

Notes on a fragment of a meteoric stone.

1581. — Note on age of coal-bearing rocks near Richmond, Va., and red sandstone of North Carolina.

Bost. Soc. Nat. Hist., Proc., v. 5 (1856): 186.

1582. ——— [*Posidonomya* in the mesozoic of . . . Virginia and North Carolina.]
 Bost. Soc. Nat. Hist., Proc., v. 5 (1856): 201-202.
1583. ——— The relations of the "New Red Sandstone" of the Connecticut valley and the coal-bearing rocks of eastern Virginia and North Carolina.
 Bost. Soc. Nat. Hist., Proc., v. 5 (1854): 14-18.
 ——— Min. Mag., Ser. I, v. 5 (1855): 128-132.
 Review: Am. Jour. Sci., Ser. II, v. 19 (1855): 123-125.
 Discusses fossils from the coal-bearing rocks of North Carolina.
1584. ROLKER, CHARLES M.
 The production of tin in North Carolina.
 (In U. S. Geol. Survey, 16th Ann. Rept., pt. 3. (Met. Products.) Wash., 1895. pp. 525-527.)
 Describes discovery of tin deposits at King's Mountain, Cleveland county, in 1886 by John H. Furman. Gives geological mode of occurrence and quotes from Furman and Nitze on the deposits.
1585. ROOSEVELT, THEODORE.
 Message from the President of the United States, transmitting report of the Secretary of Agriculture in relation to the forests, rivers and mountains of the southern Appalachian region.
 U. S. 57th Cong., 1st Sess. Sen. Ex. Doc. No. 84. Wash., 1902. 210 pp. 30 cm. Plates. Maps.
 Appendices: (a) Forests and forest conditions in the southern Appalachians, by H. B. Ayres and W. W. Ashe. (b) Topography and geology of the southern Appalachians, by Arthur Keith. (c) Hydrography of the southern Appalachians, by H. A. Pressey and E. W. Myers. (d) Climate of the southern Appalachians, by Alfred J. Henry. (e) The present status of the movement for the proposed forest reserve in the southern Appalachians.
 Review by Albert Perry Brigham: Am. Geog. Soc., Bull., v. 35 (1903): 64-66.
 Extract: Forestry & Irrigation, v. 8 (1902): 12-14.
 Transmits report of Secretary of Agriculture describing the forests, rivers and mountains in western North Carolina, and recommending creation of a national forest reserve in the southern Appalachian region. Appendices will be found summarized under authors.
1586. ROOT, ALBERT S. and HURST, LEWIS A.
 Soil survey of Duplin county, North Carolina.
 (In U. S. Dept. Agric., Field operations, Bureau of soils, 7th Rept., 1905. Wash., 1907. pp. 289-307. Map.)
 Describes topography and geology of Duplin county, with notes on climate and drainage. Describes the soils in detail and gives mechanical analyses.

1587. ROPES, LEVERETT S.

[Corundum mining in North Carolina.]

Mineral Industry, v. 7 (1899): 18-20; v. 8 (1900): 12-15.

Notes on production of corundum in Macon and Clay counties.

1588. ROSE, GUSTAV.

Beschreibung und Eintheilung der Meteoriten. . . Berlin, 1864. 161 pp. 30 cm.

Contains notes on following North Carolina meteorites: Black Mountain; Buncombe county; Asheville; Guilford county; Madison county; Cabarrus county.

Ross, W. H.

The relation between the radio-activity and the composition of thorium compounds.

See **McCoy and Ross, No. 1138.**

1589. ROTHE, CHARLES EDWARD.

Geognostische und mineralogische Bemerkungen über den Nord-Amerikanischen Freistaat Nord-Karolina, nach briefen des Herrn Karl Edward Rothe, dargestellt von Herrn Professor Breithaupt.

Leonhard's Zts. f. Min., 1827, Bd. 2, pp. 349-362.

Abstract by A. Boué: *Bull. des Sci. Nat. et de Géol.*, v. 16 (1829): 385.

Describes occurrence of gold in three formations. A translation of a report made to the General Assembly of North Carolina in 1826.

1590. — Remarks on the gold mines of North Carolina.

Am. Jour. Sci., Ser. I, v. 13 (1828): 201-217.— — — (*In Rept. on the geology of North Carolina, conducted under the Board of Agriculture, pt. 3, 1827. 23 cm. pp. 29-43.*)Abstract by G. Delafosse: *Bull. des Sci. et de Géol.*, v. 16 (1829): 409.

Describes geological structure of the gold region, vein formations, gold ores and methods of mining.

1591. RUFFIN, EDMUND.

Agricultural features of Virginia and North Carolina.

DeBow's Review, v. 22 (1857): 462-479; v. 23 (1857): 1-20.

Discusses topographic, geologic and agricultural features and advantages of eastern North Carolina, which includes the Dismal Swamp district, the coast lands and basins of the Roanoke and Chowan rivers. Describes the soils and methods of drainage and cultivation.

1592. — Agricultural, geological and descriptive sketches of lower North Carolina and the similar adjacent lands. Raleigh, 1861. 296 pp. 24 cm.

Describes geological features of the swamps and lowlands of eastern North Carolina, the sand reefs and inlets, the Albemarle and Chesapeake canal.

1593. — Supplementary report of the agricultural survey for 1843. Secondary and miocene marls. . .
 South. Agric. & Register of Rural Affairs, Ser. II, v. 4 (1844): 122-127.
 Contains brief notice of exposure of rich marl occurring at Mar's Bluff on the Cape Fear (northeast) river, containing perfect specimens of *Scutella lyelli*, and two exposures of secondary marl near South Washington.
1594. RUFFNER, E₁RNEST₁ H.
 Improvement of Waccamaw river, North Carolina and South Carolina.
 (In Chief of Eng. Rept., 1898, pt. 2. Appendix N 1, pp. 1265-1267.)
1595. RUSSELL, I₁SRAEL₁ C₁OOK₁.
 Correlation papers—the Newark system.
 U. S. Geol. Survey, Bull. 85. Wash., 1892. 344 pp. 23 cm. Plates.
 Discusses geological occurrence and structure of Newark areas in North Carolina. Reviews evidence of geological age as shown by fossils discovered by Emmons and others. Includes list of literature on the Newark system.
1596. — The Newark system.
 Am. Geol., v. 3 (1889): 178-182.
 Reviews names and correlation and gives reasons for adopting Redfield's term Newark to designate the rocks now so known. Includes the formation in North Carolina.
1597. — On the physical history of the triassic formation in New Jersey and the Connecticut valley.
 N. Y. Acad. Sci., Annals, v. 1 (1879): 220-254.
 Reviews by J. D. Dana: Am. Jour. Sci., Ser. III, v. 17 (1879): 328-330; by P. Frazer: Am. Nat., v. 13 (1879): 284-292.
 Contains general notes on the triassic coal fields of Deep and Dan rivers, with general discussion of the triassic areas of the Atlantic border.
1598. — Subaerial decay of rocks.
 U. S. Geol. Survey, Bull. 52. Wash., 1889. 61 pp. 23 cm.
 Contains many observations on rock decay as occurring in North Carolina near Jonesboro, and west of Raleigh. Analyses by R. B. Riggs of a residual clay from near Cary, and by T. M. Chatard of decomposed trap from near Wadesboro.
1599. RUTHERFORD, E₁RNEST₁ and BOLTWOOD, B₁ERTRAM₁ B.
 The relative proportion of radium and uranium in radioactive minerals.
 Am. Jour. Sci., Ser. IV, v. 20 (1905): 55-56; v. 22 (1906): 1-3.
 Abstract: Chem. News, v. 92 (1905): 38-39.
 Abstract by F. Rinne: Neues Jahr. f. Min., 1907, Bd. 1. Min. p. 8.
 Describes experiments on a sample of uraninite from Spruce Pine.

1600. SANFORD, SAMUEL.

[Mineral waters in North Carolina in 1907.]

(In U. S. Geol. Survey, Min. Res., 1907, pt. 2. Wash., 1908. p. 774.)

Describes mineral water output during year and gives list of mineral springs.

— Record of deep well drilling for 1905-1906 [in North Carolina.]

See Fuller and Sanford, No. 602.

SCHALLER, WALDEMAR T.

Purpurite, a new mineral.

See Graton and Schaller, No. 678.

1601. SCHNATTERBECK, CHARLES C.

[Phosphate rock in North Carolina in 1903.]

Mineral Industry, v. 12 (1903): 297.

Notes on production during the year from the Castle Hayne mines.

SCHNEIDER, E. A.

Analyses of minerals from North Carolina.

See Clarke and Schneider, No. 285.

— Analysis of kerrite from Franklin, North Carolina.

See Clarke and Schneider, No. 284.

— On the constitution of certain micas, vermiculites and chlorites.

See Clarke and Schneider, No. 289.

1602. — Pyroxenite from Webster, North Carolina.

Am. Geol., v. 6 (1890): 43-44.

— — (In U. S. Geol. Survey, Bull. 148. Wash., 1897. p. 92.)

— — (In U. S. Geol. Survey, Bull. 168. Wash., 1900. p. 53.)

— — (In U. S. Geol. Survey, Bull. 228. Wash., 1904. p. 63.)

Analysis of pyroxenite (websterite) from Webster, Jackson county.

1603. — Websterite from North Carolina.

(In U. S. Geol. Survey, Bull. 78, 1890. Wash., 1891. p. 122.)

Analysis of this rock.

1604. SCHÖPF, JOHANN DAVID.

Beiträge zur mineralogischen Kenntniss des östlichen Theils von Nordamerika und seinen Gebürge. Erlangen, Jacob Palm, 1787. 194 pp. 21 cm.

General description of the eastern section of North America, describing the topographical features in more or less detail; the flats, alluvial soil and mountains. Peculiarities in soil, rivers and occurrence of minerals briefly outlined. Throughout are scattered references to North Carolina.

1605. SCHOONMAKER, H.
Statement of the condition and prospects of the Zinc and Silver Hill mine in Davidson county, North Carolina. . .
New York, Baker, Goodwin & Co., 1854. 24 pp. 22½ cm.
Describes this property located at Silver Hill, Davidson county, its veins and workings at different levels.
1606. SCHOTT, CHARLES ANTHONY.
Distribution of the magnetic declination in North Carolina, reduced to the epoch, Jan. 1, 1885.
(In U. S. Coast & Geod. Survey, Rept. 1882. Wash., 1883. p. 309.)
1607. — New discussion of the distribution of the magnetic declination on the coast of Virginia, North Carolina, South Carolina and Georgia, with a chart of the isogonic curves for 1860.
(In U. S. Coast Survey, Rept. 1861. Wash., 1862. Appendix No. 24, pp. 256-259.)
Contains tables of magnetic declinations and geographical positions at Bodie's island, Raleigh and Wilmington.
1608. — Table of observed magnetic declinations and values in North Carolina, reduced to the year 1890.
(In U. S. Coast & Geod. Survey, Rept. 1889. Wash., 1890. pp. 328-329.)
1609. — Table of observed magnetic dips and horizontal and total magnetic intensities in North Carolina, up to epoch, Jan. 1, 1885.
(In U. S. Coast & Geod. Survey, Rept. 1885. Wash., 1886. pp. 202-203.)
1610. SCHWEINITZ, EMILE ALEXANDER DE.
Meteorite from Forsyth county, North Carolina.
Am. Jour. Sci., Ser. IV, v. 1 (1896): 208.
Abstract by Leonard J. Spencer: Chem. Soc. (London) Jour., v. 70, pt. 2 (1896): 375.
Abstract by A. Osann: Zts. f. Kryst. u. Min., v. 30 (1898): 391.
Abstract by G. Linck: Neues Jahr. f. Min., 1899, Bd. 1. Min. p. 233.
Description and analysis of this meteorite.
1611. SCOTT, A. E.
A visit to Mitchell and Roan mountains.
Appalachia, v. 3 (1884): 12-20.
Popular account of the ascent of these mountains.
1612. SCOTUS AMERICANUS.
Information concerning the province of North Carolina, addressed to emigrants from the Highlands and western isles

of Scotland by an impartial hand. . . Glasgow. Printed for James Knox, 1773. 32 pp. 21 cm.

Contains short sketch of the climate, physiographic features, soil and produce of the province.

1613. SEAMAN, W. H.

Analysis of a columbate from the Wiseman mica mine, Mitchell county, North Carolina.

Chem. News, v. 46 (1882): 205-206.

—— — Am. Nat., v. 17 (1883): 313.

Description and analysis of this mineral.

1614. — Analysis of mineral allied to orthite, from the Wiseman mica mine, Mitchell county North Carolina.

Chem. News, v. 46 (1882): 215.

—— — Am. Nat., v. 17 (1883): 314.

Abstract by E. W. Prevost; Chem. Soc. (London) Jour., v. 44 (1883): 164.

Description and analysis of this mineral.

1615. — Fergusonite from Brindletown, Burke county, North Carolina.

Chem. News, v. 46 (1882): 205.

—— — Am. Nat., v. 17 (1883): 313.

Abstract by E. W. Prevost; Chem. Soc. (London) Jour., v. 44 (1883): 32.

Description of this mineral.

1616. SEMMONS, WILLIAM.

Notes on some of the metalliferous deposits of the United States.

Liverpool Geol. Assoc., Trans., v. 5 (1885): 58-73.

Contains notes on occurrence of emerald and hiddenite in North Carolina.

1617. SERGEANT, J. D.

The titaniferous iron mines of North Carolina.

Eng. & Min. Jour., v. 11 (1871): 130.

Describes iron deposits in Rockingham, Guilford, Forsyth and Davidson counties, and gives ore analyses by Genth and Fesquit.

1618. SHALER, NATHANIEL SOUTHGATE.

Geology of the Dismal Swamp district of Virginia and North Carolina.

(In General account of the fresh water morasses. U. S. Geol. Survey, 10th Ann. Rept. Wash., 1890. pp. 313-339.)

Abstracts: U. S. Geol. Survey, 10th Ann. Rept., 1890. pp. 14-15; Am. Geol., v. 9 (1892): 206-207.

Abstract by George C. Hurlburt: Am. Geog. Soc., Bull., v. 25 (1893): 441-444.

Abstract: Goldthwaite's Geog. Mag., v. 2 (1891): 795-797.

Describes the Dismal Swamp district, its topography, character of vegetation, animal life, general economic value, and discusses methods of drainage and cultivation.

1619. — Notes on the submarine coast shelf of hundred fathom detrital fringe.

Bost. Soc. Nat. Hist., Proc., v. 20 (1879): 278-282.

Notes this coast shelf existing off Cape Hatteras and discusses its origin and uses.

1620. — On the causes which have led to the production of Cape Hatteras.

Bost. Soc. Nat. Hist., Proc., v. 14 (1871): 110-123.

Abstract: Am. Nat., v. 5 (1871): 178-181.

Discusses formation of Cape Hatteras.

1621. — The swamps of the United States.

Science, v. 7 (1886): 232-233.

Discusses area extending from James river to the south of Albemarle sound.

SHATTUCK, GEORGE B. URBANK.

The miocene deposits of Maryland.

See Clark, Shattuck and Dall, No. 280.

1622. SHAW, CHARLES B.

Report of Charles B. Shaw, Engineer to the Literary Board, on the drainage of the swamp lands of North Carolina.

Raleigh, 1838. 28 pp. 18½ cm.

Contains account of surveys and examinations on the line of the Ysocking canal, lake Mattamuskeet, between Pungo river and Pungo lake, from the head of Alligator river to Alligator lake, and other portions of the swamp lands, with reference to their advantages in regard to drainage.

1623. — Second report of C. B. Shaw, Engineer to the Literary Board. [Raleigh, 1838?] 10 pp. 23 cm.

Describes progress made in draining the swamp lands.

1624. SHEPARD, CHARLES UPHAM.

Account of several new mineral species.

Am. Assoc. Adv. Sci., Proc., 4th meet. (1850): 311-319.

Abstract: Jahresber. d. Chem., 1851, pp. 802; 811.

Abstract: Am. Jour. Sci., Ser. II, v. 12 (1851): 209; 211-212.

Abstract: Kenngott, G. A. Uebersicht der Resultate mineralogischer Forschungen in den Jahren 1850 und 1851. Wien, 1853. pp. 74; 123.

Describes rutherfordite occurring in Rutherford county and corundophillite found near Asheville, Buncombe county.

1625. — Catalogue of the meteoric collection of Charles Upham Shepard, deposited in the cabinet of Amherst College, Mass.

Am. Jour. Sci., Ser. II, v. 31 (1861): 456-459.

Names one stone from Cabarrus county and five irons from Guilford, Buncombe, Haywood and Madison counties.

1626. — [Diamond in North Carolina.]

(In Am. Jour. Sci., Ser. II, v. 2 (1846): 253-254.)

Abstract: Ann. d. Phy. u. Chem., v. 146 (1847): 544.

Abstract: Jahresber. d. Chem., 1848, p. 1152.

Describes a diamond found in the gold washings of Mr. Twitty's mine in Rutherford county.

1627. — Examination of a supposed meteoric iron found near Rutherfordton, North Carolina.

Am. Jour. Sci., Ser. II, v. 28 (1859): 259-270.

Abstract: Jahresber. d. Chem., 1859, p. 857.

Abstract: K. preuss. Akad. d. Wiss., Monatsber., 1861, p. 900.

Abstract: Jour. f. prakt. Chem., v. 85 (1862): 88.

Description and analysis of this meteorite.

1628. — Five new mineral species.

Am. Jour. Sci., Ser. II, v. 22 (1856): 96-99.

Abstract: Jahresber. d. Chem., 1856, pp. 868-869.

Describes xanthitane found at Green river, Henderson county, and pyromelane from McDowell county.

1629. — [Gold from North Carolina.]

Am. Jour. Sci., Ser. I, v. 47 (1844): 98.

Notice of specimens of native gold from mine near Lincolnton, Lincoln county.

1630. — Measurements of crystals of zircon from Buncombe county, North Carolina.

Am. Jour. Sci., Ser. I, v. 13 (1828): 392-393.

Abstract: Bull. des Sci. Nat. et de Géol., v. 18 (1829): 45.

Describes zircon crystals. (See Porter, T. D., No. 1456.)

1631. — [Meteoric iron from Guilford county, North Carolina.]

(In Am. Jour. Sci., Ser. I, v. 40 (1841): 369-370.)

Abstract: Neues Jahr. f. Min., 1841, p. 699.

Abstract: (In Partsch, Paul. Die Meteoriten . . . in K. K. Hof-Mineralien-Kabinette zu Wein, 1843. pp. 114-115.)

Notice by G. von Boguslawski: Ann. d. Phy. u. Chem. Ergänzungsbd. IV (1854): 403.

Abstract: L'Institut, v. 9 (1841): 452.

Description and analysis of a meteoric iron collected by Denison Olmsted from Guilford county. (See No. 1639.)

1632. — [Meteoric iron from Haywood county, North Carolina.]

(In Am. Jour. Sci., Ser. II, v. 17 (1854): 327-330.)

— (In Jour. f. prakt. Chem., v. 62 (1854): 346.)

Abstract: Jahresber. d. Chem., 1854, p. 915.

Description of a small specimen of meteoric iron from Haywood county.

1633. — [Meteoric stone of Cabarrus county, North Carolina.]

(In Account of three new American meteorites. Am. Assoc. Adv. Sci., Proc., 3d meet. (1850): 149-152.)

Abstract: Am. Jour. Sci., Ser. II, v. 10 (1850): 127-128.

Abstract: Annual Scient. Discovery, 1851, p. 287.

Abstract by G. von Boguslawski: Ann. d. Phy. u. Chem., Ergänzungsbd. IV (1854): 381-382.

Abstract: Gött. gelehrte Anzeigen, v. 1 (1852): 321-324.

Description and analysis of this meteorite. (See Gibbon, No. 656.)

1634. — Mineralogical notices.
Am. Jour. Sci., Ser. III, v. 20 (1880): 54-57.
 Abstract by C. A. Tenne: *Neues Jahr. f. Min., 1882, Bd. 2. Ref.*
pp. 358-360.
 Describes fergusonite from Mitchell county occurring with samarskite.
1635. — Native platinum in North Carolina.
(In Am. Jour. Sci., Ser. II, v. 4 (1847): 280-281.)
 Notice: *Neues Jahr. f. Min., 1849, pp. 95; 304.*
 Describes a small reniform grain of native platinum found in Rutherford county.
1636. — New classification of meteorites, with an enumeration of meteoric species.
Am. Jour. Sci., Ser. II, v. 43 (1867): 22-28.
 Abstract: *Neues Jahr. f. Min., 1867, pp. 719-724.*
 Names five varieties from Cabarrus, Buncombe, Guilford, Rutherford and Haywood counties.
1637. — North Carolina copper mines.
Min. Mag., Ser. I, v. 1 (1853): 74.
 Notes on indications of copper ore in Mecklenburg, Union, Cabarrus and Rowan counties. Notes discovery of a diamond at Pioneer Mills.
1638. — Notices of American Minerals.
Am. Jour. Sci., Ser. II, v. 8 (1849): 274-275.
 Notice: *Edin. Phil. Jour., v. 48 (1849): 184.*
 Abstract: *Jahresber. d. Chem., 1849, p. 729.*
 Describes following minerals from North Carolina: pyrophillite and lazulite from Crowder's mountain; brookite and monazite from the gold washings of Rutherford county.
1639. — On crystallized native terrestrial iron from North Carolina.
Am. Jour. Sci., Ser. I, v. 17 (1830): 140-142.
 Abstract: *Bull. des Sci. Nat. et de Géol., v. 24 (1831): 295.*
 Description of two specimens of native iron from Randolph and Guilford counties, collected by Denison Olmsted. The larger specimen is described by Olmsted. (*See No. 1367.*)
1640. — [On itacolumite in North Carolina.]
Assoc. Am. Geol., Proc., 6th meet. (1845): 41.
 Describes itacolumite from Linnville mountain, Burke county.
1641. — On meteoric iron from Asheville, Buncombe county, North Carolina.
Am. Jour. Sci., Ser. I, v. 36 (1839): 81-84.
 Abstract: (*In Partsch, Paul, Die Meteoriten . . . in K. K. Hof-Mineralien-Kabinette zu Wien, 1843. p. 116.*)
 Notice by G. von Boguslawskij: *Ann. d. Phys. u. Chem., Ergänzungsbd. IV (1854): 403-404.*
 Description and analysis of a specimen of supposed native iron from this locality.
1642. — [On mineral resources of North Carolina.]
(In Lanman, Charles. Letters from the Alleghany Mountains. New York, Putnam, 1849. 20 cm. pp. 190-192.)
 Letter to Thomas L. Clingman on mineral resources of western North Carolina.

1643. — On the corundum region of North Carolina and Georgia, with description of two gigantic crystals of that species.
Am. Jour. Sci., Ser. III, v. 4 (1872): 109-114; 175-180.
 Review: *Sci. Amer., v. 27 (1872): 120.*
 Abstract: *Revue de Géol., v. 11 (1875): 211.*
 Abstract: *Jahresber. d. Chem., 1872, pp. 1098-1099; 1161.*
 Describes corundum localities in Jackson, Macon and Clay counties, geological formations, mode of occurrence, associated minerals and rocks. Gives analysis of chrysolithic rock which carries the corundum, and crystallographic description of a specimen of corundum from the Culsagee mine in Macon county.
1644. — Report on gold and copper mines at Gold Hill, Rowan county, North Carolina. Charleston, S. C., 1853. 18 pp. 21½ cm.
 Description and history of this mining property consisting of Holmes, Martin & Peters, Barnhardt and Honeycutt mines.
1645. — Report on meteorites.
Am. Jour. Sci., Ser. II, v. 2 (1846): 377-392; v. 4 (1847): 74-87.
 — New Haven, B. L. Hamlen, 1848. 55 pp. 23 cm.
 Abstract: *L'Institut, v. 15 (1847): 379-383.*
 Abstract: *Jahresber. d. Chem., 1848, pp. 1309-1311.*
 Abstract by G. von Boguslawski: *Ann. d. Phys. u. Chem., Ergänzungsbd. IV (1854): 405-406; 407-408.*
 Review & Abstract: *Gött. gelehrte Anzeigen, v. 1 (1852): 313-320.*
 Contains descriptions and analyses of meteorites from Baird's plantation, Hominy creek, and Black mountain, Buncombe county.
1646. — Report on the Sumner, Hipp, Fulwood and Lemons mines of North Carolina.
Min. Mag., Ser. I, v. 1 (1853): 591-597.
 Description of these mines located in Mecklenburg county.
1647. — Samarskite (Uranotantalite) in Rutherford county, North Carolina.
(In On new localities of American minerals. Am. Assoc. Adv. Sci., Proc., 4th meet. (1850): 321.)
 Abstract: *Am. Jour. Sci., Ser. II, v. 12 (1851): 220.*
 Describes samarskite from the gold washings of one or more mines in Rutherford county.
1648. — Valuable southern minerals.
Rural Carolinian, v. 3 (1872): 360-362.
 Brief notes on discovery of corundum in Macon county.
1649. — Xenotime in the gold region of North Carolina.
Am. Jour. Sci., Ser. II, v. 13 (1852): 143.
 Notes on xenotime crystals from McDowell county.
1650. SHINN, JAMES, FRANKLIN.
 Discovery of gold in North Carolina.
Trinity Archive, v. 6 (1893): 335-337.
 Description of discovery of gold on the Reed property in Cabarrus county in 1799.

1651. SILLIMAN, BENJAMIN.
Plumbago from North Carolina.
Am. Jour. Sci., Ser. I, v. 4 (1822): 53.
—— ——— Edin. Phil. Jour., v. 7 (1822): 394.
Notes on plumbago (graphite) said to occur a few miles north of Raleigh.
1652. SILLIMAN, BENJAMIN, JR.
Clingmanite from North Carolina.]
(In Descriptions and analyses of several American minerals.
Am. Jour. Sci., Ser. II, v. 8 (1849): 377-394.)
—— ——— (In Phil. Mag., Ser. III, v. 35 (1849): 455-456.)
Abstract: Jour. f. prakt. Chem., v. 49 (1850): 200-201.
Abstract: Annuaire de Chimie, 1851, p. 181.
Abstract: Am. Jour. Sci., Ser. II, v. 10 (1850): 117.
Abstract: Uebersicht der Resultate mineralogischer Forschungen in den Jahren 1844 bis 1849. Wien, 1852. p. 100.)
Describes and gives analysis of a mineral similar to euphyllite investing the blue corundum of North Carolina for which the author proposes name "clingmanite."
1653. The Silver Hill mine, North Carolina.
Min. Mag., Ser. II, v. 1 (1860): 368-371.
Description of this property at Silver Hill, Davidson county.
1654. Silver mine in North Carolina.
Min. Mag., Ser. I, v. 2 (1854): 83.
Reports discovery of silver mine in Stanly county.
1655. SIMONDS, FREDERICK, WILLIAM.
Commercial mica in North Carolina.
Science, n. s., v. 4 (1896): 359-361.
Account of mica mining in North Carolina, history of the discovery of mica in the locality, with a letter from Thomas L. Clingman relative to his investigations.
1656. ——— The discovery of iron implements in an ancient mine in North Carolina.
Am. Nat., v. 15 (1881): 7-11.
Abstract: Pop. Sci. Month., v. 18 (1881): 568.
Notes indications of pre-historic mining in western North Carolina, and implements found in a mine in Macon county.
1657. ——— On the discovery and occurrence of mica in North Carolina: read before the Texas Academy of Science, April 2, 1892.
Not published.
Abstract: Texas Acad. Sci., Proc., v. 1, No. 5 (1897): 114.
1658. SIMPSON, JAMES, HERVEY.
Examination of Nag's Head, North Carolina, with a view to the re-opening of Roanoke inlet.
(In Chief of Eng. Rept., 1871. Appendix Q 14, pp. 655-662.)
Résumé of examinations and surveys previously made at this locality, from the first made by Hamilton Fulton in 1820, including that of Hartman Bache in 1829, of Walter Gwynn in 1840, of Lieutenant Woodbury in 1853, of Col. Trumbull in 1857.

1659. — Examination of the mouth of the Cape Fear river in North Carolina.
(*In* Chief of Eng. Rept., 1870. Appendix R, pp. 421-422.)
1660. Sketch of Denison Olmsted.
Pop. Sci. Month., v. 46 (1895): 401-408.
1661. Sketch of Ebenezer Emmons.
Pop. Sci. Month., v. 48 (1896): 406-411.
Brief account of Emmons' life and work, and of his connection with the North Carolina geological survey.
1662. Sketch of Elisha Mitchell.
Pop. Sci. Month., v. 38 (1891): 398-406.
Brief account of Elisha Mitchell's life and work at Chapel Hill.
1663. Sketches of Charlotte. The queen city of the Old North State and Mecklenburg, the banner county. Charlotte, Hirst-Printing Co., 1888. 46 pp. 22 cm.
Contains notes on the topography, climate and gold mines.
1664. Sketches of Rockingham county, North Carolina. Topography, geography, climate, soil, resources, agricultural and mineral. Leaksville, "Gazette" Job Print, 1884. 31 pp. 21 cm.
1665. SMALL, JOHN H.
North Carolina. Resources, progress and possibilities.
Congressional Record, 57th Cong., 1st Sess., 1902. 8 pp. 29 cm.
Speech in the House of Representatives, June 28, 1902, describing the resources of North Carolina.
1666. SMITH, C₁ORNARO, D₁RAYTON.
Ancient mica mines in North Carolina.
Smithsonian Inst., Board of Regents, Ann. Rept., 1876, pp. 441-443.
Account of ancient mica mining in Mitchell and Macon counties, supposed to have been carried on by the Indians. Author describes the ancient works discovered on his own farm in Franklin, Macon county.
1667. — Corundum and its associated rocks.
(Appendix D to Kerr, W. C. Rept. Geol. Survey of North Carolina. Raleigh, Josiah Turner, 1875. 24 cm. pp. 91-97.)
Notice: *Revue de Géol.*, v. 13 (1877): 54.
Detailed account of corundum of western North Carolina, its occurrence in the granitic gneisses of the Blue Ridge, its veins and associated minerals.
1668. — Essay on the geology of western North Carolina.
(Appendix D to Kerr, W. C. Rept. Geol. Survey of North Carolina. Raleigh, 1875. 24 cm. pp. 98-120.)
Detailed descriptions of the rock formations and mineral resources. Describes outcrops of corundum, the Jenks corundum mine in Macon county and the mica mines in Mitchell county, with notes on gold and iron deposits.
1669. — Report on the Jarrett property in Swain and Macon counties, North Carolina. Atlanta, Ga., 1887? 8 pp. 23 cm.
Detailed account of the geology of this region, mineral deposits and water-powers.

1670. SMITH, EDWARD D.

An account of the warm springs in Buncombe county, State of North Carolina.

Am. Jour. Sci., Ser. I, v. 3 (1821): 117-125.

Description of these springs and analysis of the water.

1671. SMITH, FRANKLIN L.

Notices of some facts connected with the gold of a portion of North Carolina.

Am. Jour. Sci., Ser. I, v. 32 (1837): 130-133.

Describes the different modes of occurrence of gold in the region around Charlotte.

1672. SMITH, JOHNS LAWRENCE.

Description of columbic acid minerals from new localities in the United States, embracing a reclamation for the restoration of the name columbian to the element now called niobium. Description and analyses of columbite, samarskite, euxenite and fergusonite, and the new species hatchettolite and rogersite.

Am. Jour. Sci., Ser. III, v. 13 (1877): 359-369.

— — — Annal de Chimie, Ser. V, v. 12 (1877): 253-264.

— — — (*In his* Original researches in mineralogy and chemistry. Louisville, Ky., John P. Morton & Co., 1884. 23 cm. pp. 193-204.)

Abstract by J. H. Collins: Min. Mag. & Jour. Min. Soc., v. 1 (1877): 189-191.

Abstract by C. W. Watts: Chem. Soc. (London) Jour., v. 32 (1877): 714-715.

Abstract: Chem. News, v. 36 (1877): 152.

Abstract: Jahresber. d. Chem., 1877, pp. 288; 1342-1346.

Abstract by E. S. Dana: Zts. f. Kryst. u. Min., v. 1 (1877): 499-502.

Description and analyses of columbite, samarskite, euxenite, fergusonite, hatchettolite and rogersite from Mitchell county. Includes analyses of samarskite by E. H. Swallow and O. D. Allen.

1673. — Description of the Nash county meteorite which fell in May, 1874.

Am. Jour. Sci., Ser. III, v. 10 (1875): 147-148.

— — — Acad. des Sci., Comp. Rend., v. 80 (1875): 1453-1454.

— — — (*In his* Original researches in mineralogy and chemistry. Louisville, Ky., John P. Morton & Co., 1884. 23 cm. pp. 478-479.)

Abstract by R. Routhledge: Chem. Soc. (London) Jour., v. 28 (1875): 1167. By G. T. Atkinson: v. 29 (1876): 692.

Abstract: Jahresber. d. Chem., 1875, p. 1314.

Description and analysis of this meteorite which fell near Castalia.

1674. — The earths of the cerium groups as found in the North Carolina samarskite.

Am. Jour. Sci., Ser. III, v. 14 (1877): 509.

1675. — Hiddenite, an emerald-green variety of spodumene.
 Am. Jour. Sci., Ser. III, v. 21 (1881): 128-130.
 — — — (In *his* Original researches in mineralogy and chemistry.
 Louisville, Ky., John P. Morton & Co., 1884. 23 cm.
 pp. 342-344.)
 Abstract by C. A. Tenne: Neues Jahr. f. Min., 1882, Bd. 2.
 Ref. pp. 345-346.
 Abstract by B. H. Brough: Chem. Soc. (London) Jour., v.
 44 (1883): 440.
 Abstract: Jahresber. d. Chem., 1881, p. 1392.
 Extract: Soc. Min. de France, Bull., v. 4 (1881): 184-186.
 Detailed description and analysis of a new variety of
 spodumene called hiddenite from Alexander county.
1676. — and BRUSH, GEORGE J. JARVIS.
 Lazulite and kyanite from North Carolina.
 (In *their* Re-examination of American minerals, pt. 3.
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1692. SMOCK, JOHN CONOVER.

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Notes on the general treatment of southern gold ores and experiments in matting iron sulphides.

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1699. [STAGG, JOHN.]

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1700. STANTON, TIMOTHY W.

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1701. STANTON, WILLIAM S.

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1705. ——— Improvement of Fishing creek, North Carolina.

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1708. — Improvement of inland waterway between Newbern and Beaufort, North Carolina, via Clubfoot, Harlowe and Newport rivers.
(In Chief of Eng. Rept., 1893, pt. 2. Appendix L 11, pp. 1393-1394.)
1709. — Improvement of Lockwood Folly river, North Carolina.
(In Chief of Eng. Rept., 1892, pt. 2. Appendix L 20, pp. 1177-1181.)
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1711. — Improvement of Neuse river, North Carolina.
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1713. — Improvement of Northeast (Cape Fear) river, North Carolina.
- — (In Chief of Eng. Rept., 1892, pt. 2. Appendix L 16, pp. 1152-1154.)
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- Reports of progress.
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- (In Chief of Eng. Rept., 1892, pt. 2. Appendix L 5, pp. 1115-1117.)
- — (In Chief of Eng. Rept., 1893, pt. 2. Appendix L 5, pp. 1359-1376.)
- — (In Chief of Eng. Rept., 1894, pt. 2. Appendix L 4, pp. 996-1018.)
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1715. — Improvement of Pamlico and Tar rivers, including Tar river from Tarboro to Little Falls, North Carolina.
- (In Chief of Eng. Rept., 1892, pt. 2. Appendix L 7, pp. 1118-1123.)
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- — (In Chief of Eng. Rept., 1894, pt. 2. Appendix L 6, pp. 1019-1022.)
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- Reports of progress.
1716. — Improvement of Pasquotank river, North Carolina.
- (In Chief of Eng. Rept., 1893, pt. 2. Appendix L 3, pp. 1354-1357.)
1717. — Improvement of Roanoke river, North Carolina.
- (In Chief of Eng. Rept., 1892, pt. 2. Appendix L 2, pp. 1103-1111.)
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- — (In Chief of Eng. Rept., 1894, pt. 2. Appendix L 1, pp. 989-994.)
- Reports of progress.
1718. — Improvement of Trent river, North Carolina.
- (In Chief of Eng. Rept., 1892, pt. 2. Appendix L 9, pp. 1125-1128.)

- — (In Chief of Eng. Rept., 1893, pt. 2. Appendix L 9, pp. 1387-1389.)
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- — (In Chief of Eng. Rept., 1895, pt. 2. Appendix K 5, pp. 1316-1318.)
Reports of progress.
1719. — Improvement of waterway between New river and Swansboro, North Carolina.
(In Chief of Eng. Rept., 1892, pt. 2. Appendix L 14, pp. 1146-1149.)
- — U. S. 52d Cong., 1st Sess., 1892. House Doc. No. 26. 3 pp.
1720. — Improvement of Yadkin river, North Carolina.
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1721. — Preliminary examination for break-water to protect town of Beaufort, North Carolina.
(In Chief of Eng. Rept., 1893, pt. 2. Appendix L 27, pp. 1457-1461.)
- — U. S. 52d Cong., 2d Sess., 1893. House Doc. No. 246. 5 pp.
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(In Chief of Eng. Rept., 1895, pt. 2. Appendix K 26, pp. 1375-1380.)
- — U. S. 53d Cong., 3d Sess., 1895. House Doc. No. 319. 6 pp.
The point of Cape Lookout is described, with the rapid growth of its northwestward-pointing barb threatening to close the harbor.
1723. — Preliminary examination of Core sound, North Carolina.
(In Chief of Eng. Rept., 1895, pt. 2. Appendix K 25, pp. 1373-1375.)
- — U. S. 53d Cong., 3d Sess., 1895. House Ex. Doc. No. 333. 3 pp.
1724. — Preliminary examination of Drum inlet, North Carolina, between Portsmouth and Cape Lookout.
(In Chief of Eng. Rept., 1895, pt. 2. Appendix K 24, pp. 1372-1373.)
- — U. S. 53d Cong., 3d Sess., 1895. House Ex. Doc. No. 296. 2 pp.
1725. — Preliminary examination of Durham's estuary, North Carolina, from mouth to village of Edwards Mill.
(In Chief of Eng. Rept., 1893, pt. 2. Appendix L 26, pp. 1454-1457.)
- — U. S. 52d Cong., 2d Sess., 1893. House Doc. No. 99. 4 pp.
1726. — Preliminary examination of Potohunk river, North Carolina.
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- — U. S. 52d Cong., 2d Sess., 1893. House Doc. No. 207. 4 pp.

1727. — Preliminary examination of Scuppernong river, North Carolina.
 (In Chief of Eng. Rept., 1895, pt. 2. Appendix K 21, pp. 1360-1365.)
 — — U. S. 53d Cong., 3d Sess., 1895. House Doc. No. 217. 5 pp.
1728. — Preliminary examination of South creek, North Carolina, from mouth to head of navigation.
 (In Chief of Eng. Rept., 1895, pt. 2. Appendix K 23, pp. 1366-1371.)
 — — U. S. 53d Cong., 3d Sess., 1895. House Doc. No. 221. 7 pp.
1729. — Preliminary examination of Tar river, North Carolina, from Washington to Greenville, with a view to obtaining a depth of three feet.
 (In Chief of Eng. Rept., 1895, pt. 2. Appendix K 22, pp. 1365-1366.)
 — — U. S. 53d Cong., 3d Sess., 1895. House Ex. Doc. No. 62. 2 pp.
1730. — Preliminary examination of the water-route from mouth of North river to Beaufort harbor, North Carolina.
 (In Chief of Eng. Rept., 1895, pt. 2. Appendix K 27, pp. 1380-1384.)
 — — U. S. 53d Cong., 3d Sess., 1895. House Doc. No. 302. 5 pp.
1731. — Preliminary examination of Turner's Cut, North Carolina.
 (In Chief of Eng. Rept., 1895, pt. 2. Appendix K 20, pp. 1357-1360.)
 — — U. S. 53d Cong., 3d Sess., 1895. House Ex. Doc. No. 213. 5 pp.
1732. — Survey of Alligator river, North Carolina.
 (In Chief of Eng. Rept., 1895, pt. 2. Appendix K 28, pp. 1384-1389.)
 — — U. S. 53d Cong., 3d Sess., 1895. House Ex. Doc. No. 297. 6 pp. Map.
1733. — Survey of Northeast (Cape Fear) river, North Carolina, from the Old County ferry to Juniper swamp or creek. . .
 (In Chief of Eng. Rept., 1895, pt. 2. Appendix K 29, pp. 1389-1390.)
 — — U. S. 53d Cong., 3d Sess., 1895. House Doc. No. 322. 3 pp. Map.

STEEL, A. A.

Recent changes in gold mining in North Carolina that have favorably affected this industry.

See Pratt and Steel, No. 1500.

STEIGER, GEORGE.

Analysis of pyrophyllite from Deep river, N. C.

See Clarke and Steiger, No. 286.

1734. STEPHENSON, J. ADLAI D.

Notes on the phenomena accompanying the tornado and hail storm which passed across Catawba and Iredell counties, North Carolina, March 25, 1884.

Elis. Mit. Sci. Soc., Jour., v. 1 (1884): 40-43.

1735. STEPHENSON, LLOYD WILLIAM.

The mesozoic (cretaceous) deposits of the costal plain of North Carolina.

Dissertation submitted to the Board of University Studies, Johns Hopkins University, in conformity with the requirements for the degree of Doctor of Philosophy. 1907. Maps.

Description of areal extent, lithologic and paleontologic characters and stratigraphic relations of the cretaceous formations of the state.

1736. — Some facts relating to the mesozoic deposits of the coastal plain of North Carolina.

Johns Hopkins Univ. Circ., n. s., No. 7 (1907): 93-99.

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1737. STERRETT, DOUGLAS B.

Grinding scrap mica in North Carolina.

(In U. S. Geol. Survey, Min. Res., 1906. Wash., 1907. pp. 1153-1154.)

Extract: Mining World, v. 28 (1908): 56.

General notes on progress of mica grinding in the state.

1738. — Mica deposits of western North Carolina.

(In Pratt, J. H. Mining industry in North Carolina during 1906. N. C. Geol. Survey, Econ. Paper No. 14. Raleigh, E. M. Uzzell & Co., 1907. 24 cm. pp. 82-107.)

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Review: Eng. & Min. Jour., v. 83 (1907): 967.

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1739. — [Mica in North Carolina in 1907.]

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— Monazite and monazite mining in the Carolinas.

See Pratt and Sterrett, No. 1483.

1740. — Monazite and zircon [in North Carolina].

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- Abstract: Frank. Inst., Jour., v. 164 (1907): 374.
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1741. ——— Monazite deposits of the Carolinas.
(In U. S. Geol. Survey, Bull. 340. Wash., 1908. pp. 272-
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1742. ——— Precious stones in North Carolina.
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- Extract: Mining World, v. 29 (1908): 559.
Reports of production.
- The tin deposits of the Carolinas.
See Pratt and Sterrett, No. 1506.
1743. STEVENS, HORACE J.
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(In his Copper Hand-book, v. 3 (1903): 114; v. 4 (1904):
114; v. 5 (1905): 114; v. 6 (1906): 114; v. 7 (1907):
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1744. STEVENS, R. P.
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1745. ——— On the method and occurrence of gold in North Carolina.
Am. Jour. Mining, v. 2 (1866): 250. (*Not seen.*)
1746. ——— Southern mines.
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1747. STOKES, H. N.
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1750. STROTHER, DAVID HUNTER (*Porte Crayon, pseud.*).
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(In Mineral Industry, v. 11 (1903): 65.)
 Notes on barite mining in Madison and Gaston counties
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1752. — NEWLAND, D. H. *and* FISHER, HENRY.
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Mineral Industry, v. 11 (1903): 171.
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1753. STRUTHERS, JOSEPH.
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 fluenced by physiographic conditions, by J. A. Holmes, C.
 F. Von Herrman *and* George F. Swain. Pt. 2. Water-
 power in North Carolina east of the Blue Ridge, by
 George F. Swain *and* J. A. Holmes. Pt. 3. Water-power
 of North Carolina west of the Blue Ridge, by E. W.
 Myers *and* J. V. Lewis. Pt. 4. Discharge measurements
 on the North Carolina rivers, by E. W. Myers.
1755. SWAIN, GEORGE F[ILLMORE].
 Report on the water-power of the southern Atlantic water-
 shed.
*(In U. S. 10th Census Rept., v. 16. Wash., 1885. pp. 661-
 831.)*
 Describes the following rivers with their drainage basins,
 tributaries and water-power resources: Chowan, Neuse,
 Roanoke, Tar, Cape Fear, Great Pedee (and Yadkin) and
 Catawba.
1756. SWALLOW, ELLEN H[ENRIETTA].
 Analysis of samarskite from a new locality.
Bost. Soc. Nat. Hist., Proc., v. 17 (1875): 424-428.
 Corrected analysis given: *Am. Jour. Sci., Ser. III*, v. 14
 (1877): 71.
 Description and analysis of samarskite from Mitchell
 county.

1757. SWANK, JAMES M¹OOORE¹.

Iron in North Carolina.

(In U. S. Geol. Survey, Min. Res., 1883-1884. Wash., 1885. pp. 277-278.)

Description of iron ore deposits in Mitchell county, with table of analyses of ores.

—— ——— (In U. S. Geol. Survey, Min. Res., 1886. Wash., 1887. pp. 36; 82-83.)

Notes on deposits of iron ore at Cranberry; the limonite ores of southwestern part of the state, with tables of analyses by Britton and McCreath. Analyses of magnetic ores from Guilford and Rockingham counties by J. P. Lesley.

1758. ——— The manufacture of iron in North Carolina.

(In *his* History of the manufacture of iron in all ages. Phila., Am. Iron & Steel Assoc., 1892. 25 cm. pp. 272-275.)

A historical account of iron works and manufactures in the state from early times.

1759. Table of depths for channels and harbors in North Carolina.

(In U. S. Coast & Geod. Survey, Bull. 36. Wash., 1907. pp. 57-60.)

1760. TALCOTT, T. M. R.

The Gaston Mineral Company. Richmond, Va., 1893. 5 pp. 34 cm. Maps.

Description of mineral belt in Gaston county.

1761. TASSIN, WIRT.

Descriptive catalogue of the meteorite collection in the United States museum to Jan. 1. 1902.

U. S. Nat. Mus., Rept. 1900. pp. 671-698.

Enumerates nine meteorites from North Carolina: from Alexander, Buncombe, Rutherford, Madison, Davidson, Rockingham, Wilson, Nash and Cabarrus counties.

—— On the meteorite from Rich mountain, Jackson county, North Carolina, with chemical analysis by Wirt Tassin.

See Merrill, G. P., No. 1217.

1762. ——— The Persimmon Creek meteorite.

U. S. Nat. Mus., Proc., v. 27 (1904): 955-959.

Abstract by E. Cohen: Geol. Centralblatt, v. 5 (1904): 543-544.

Abstract by G. Linck: Neues Jahr. f. Min., 1905, Bd. 1. Min. pp. 215-216.

Abstract: Mining World, v. 21 (1904): 30-31.

Description and analysis of this meteorite found on Persimmon creek, Cherokee county.

1763. TATHAM, WILLIAM.

Separate report on the survey of the coast of North Carolina from Cape Hatteras to Cape Fear, 1806.

MSS. in possession of the U. S. Coast & Geod. Survey, Washington, D. C. 60 pp. 33½ cm.

1764. TAYLOR, RICHARD, CLOWLING.

Reports on the Washington silver mine in Davidson county, North Carolina, with an appendix containing assays of the ores, returns of silver and gold produced and statements of the affairs of the Washington Mining Company. Phila., E. G. Dorsey, 1845. 40 pp. 22½ cm.

Review: Quart. Jour. Agric. & Sci., v. 2 (1845): 130.

Description of this mine.

1765. TAYLOR, W. J.

Minerals from North Carolina.

(In Mineralogical notes. Acad. Nat. Sci. Phila., Proc., (v. 10) (1858): 176.)

Description of minerals resembling staurolite and hydrophite (?) found near Webster, Jackson county.

1766. TERRY, WILLIAM.

Peach Bottom copper mine. 9 pp. (Not seen.)

1767. TEST, C. D.

Occurrence, production and commercial value of monazite.

Col. School of Mines, Bull., v. 4 (1908): 125-130.

Describes occurrence of commercial monazite in the gold-bearing sands of North Carolina, its associated minerals, and the methods used in mining.

1768. THIES, ADOLPH and PHILLIPS, WILLIAM, BATTLE.

The Thies process of treating the low-grade auriferous sulphides at the Haile gold mine, Lancaster county, South Carolina.

Am. Inst. Min. Eng., Trans., v. 19 (1890): 601-614.

Describes in detail the Thies process as in use at the Haile mine, South Carolina, and at the Phoenix mines, North Carolina. Contains letter from Adolph Thies to C. N. Aaron of California, explaining the process in detail. This letter is also published in the 8th Rept. of the State Mineralogist of California, 1888. pp. 844-846.

1769. THIES, E. A.

Chlorination of auriferous sulphides.

Eis. Mit. Sci. Soc., Jour., v. 5 (1888): 68-71.

Account of experimental work in chlorinating the auriferous sulphides from the Phoenix mine, Cabarrus county.

1770. THOMPSON, WILLIAM BEVERHOUT.

Report upon the Cape Fear and Deep rivers.

N. C. Gen. Assem. House of Commons, Doc. No. 17. Raleigh, Seaton Gales, 1848. 15 pp. 21 cm.

Report of an examination of these rivers, with a view to opening navigation to Hancock's Mill in Moore county.

1771. — Report upon the survey of the Neuse river, together with plans and estimates for the improvement of the same.

(In N. C. Gen. Assem., 1852. Ex. Doc. No. 4. Raleigh, Seaton Gales, 1852. 21 cm. pp. 53-67.)

1772. THORN, FRANK M^{ANLY}.
 Coast survey operations in North Carolina.
 (In U. S. Coast & Geod. Survey, Rept. 1886. Wash., 1887.
 pp. 50-53.)
 ——— (In U. S. Coast & Geod. Survey, Rept. 1887. Wash., 1889.
 pp. 50-52.)
 ——— (In U. S. Coast & Geod. Survey, Rept. 1888. Wash., 1889.
 pp. 45-47.)
 Reports of progress.
1773. ——— Re-establishment of that part of the boundary line between
 the States of Virginia and North Carolina, extending from
 the Atlantic coast westward to the Nottoway river.
 (In U. S. Coast & Geod. Survey, Rept. 1887. Wash., 1889.
 p. 49.)
 Account of resurvey of this boundary line, and its estab-
 lishment.
1774. THORNTON, WILLIAM.
 Letter to the members of the North Carolina Gold Mine
 Company.
 Phil. Mag., v. 27 (1807): 261-264.
 Account of a visit to the land belonging to this company.
 Describes the gold deposits and prospects.
1775. ——— North Carolina Gold Mine Company. Washington, 1806.
 20 pp. 20½ cm.
 Account of the early gold discoveries and mines in North
 Carolina, and the formation of the North Carolina Gold
 Mine Company.
1776. THORPE, ALBERT.
 Monazite, a mineral containing helium.
 Chem. News, v. 72 (1895): 32.
 ——— Chem. Soc. (London) Jour., v. 70, pt. 2 (1896): 34.
 Analysis of monazite from North Carolina.
1777. TIERNAN, FRANCES C. FISHER (Christian Reid, *pseud.*).
 The mountain region of North Carolina.
 Appleton's Jour., n. s., v. 2 (1877): 193-204.
 Account of ascents of mountains in this region, with notes
 on topography, altitudes and scenery.
1778. TILDEN, H. B.
 Report on Stafford and Griffin mines, Randolph county,
 North Carolina. Printed at Weldon, N. C., 1893. 1 p.
 35 cm. Map.
 Descriptions of these mines.
1779. Tin ore in North Carolina.
 Mining World, v. 21 (1904): 174-175.
 Describes deposits of tin ore on the property of the Caro-
 lina Tin Co. near Bessemer City.

1780. TITTMAN, OTTO HILGARD.
Hydrographic work in North Carolina in 1906.
(*In* U. S. Coast & Geod. Survey, Rept. 1906. Wash., 1907.
Appendix 1, p. 37.)
1781. ——— [Triangulation in North Carolina.]
(*In* U. S. Coast & Geod. Survey, Rept. 1903. Wash., 1904.
Appendix 1, p. 63.)
——— (U. S. Coast & Geod. Survey, Rept. 1904. Wash., 1905.
Appendix 1, pp. 54-56.)
1782. TOMPKINS, DANIEL AUGUSTUS.
Mining and the mint before 1860.
(*In his* History of Mecklenburg county. . . Charlotte, N. C.,
Observer Printing House, 1903. 24 cm. pp. 129-132.)
Notes on discovery of gold in North Carolina, the early
mines and mining operations.
1783. TOPLEY, W.
Note on the recent earthquake in the United States.
Brit. Assoc. Adv. Sci., Rept. 56th meet., 1886. pp. 656-657.
Contains extract from a telegram from Major Powell on
the Charleston earthquake, with notes on shocks felt in
North Carolina.
1784. Topographical work in North Carolina.
Science, v. 3 (1884): 391-393.
Topographic description of the area lying between the Blue
Ridge and the Tennessee line, describing the timber lands
and mineral resources.
1785. TORREY, JOHN.
Zircon from North Carolina.
Am. Jour. Sci., Ser. I, v. 5 (1822): 401.
Finds the goniometrical measurement of this mineral to
agree very nearly with those given by Haiiy.
1786. TOWER, ZEALOUS BATES.
Report of Board of Engineers.
(*In* Chief of Eng. Rept., 1873. Appendix T 21, pp. 797-
803.)
——— (*In* U. S. 42d Cong., 3d Sess. House Ex. Doc. No. 108,
pp. 1-4; 20-25.)
Report of a board of engineers convened especially to
discuss the improvement of the Cape Fear river.
1787. TRAUTWINE, JOHN C.
A new locality for diasporé.
Frank. Inst., Jour., v. 94 (1872): 7-8.
Transparent crystals of diasporé reported found on the
corundum of Franklin, Macon county.
1788. TRUCHOT, P.
On the occurrence and extraction of thorite, monazite and
zircon.
Chem. News v. 77 (1898): 134-135; 145-147.

- ——— *Revue Générale des Sciences*, v. 9 (1898): 145-149.

Abstract by L_{eonard} J. S_{pencer}: *Chem. Soc. Jour.* (London)
v. 74, pt. 2 (1898): 437-438.

Describes monazite area in Burke, McDowell, Rutherford, Cleveland and Polk counties, methods of working monazite, and gives analyses of varieties from different localities.

1789. TUOMEY, MICHAEL.

Description of some fossil shells from the tertiary of the Southern States.

Acad. Nat. Sci. Phila., Proc., [v. 6] (1852): 192-194.

Describes ten species of fossil shells from "a well-known locality at Wilmington."

1790. ——— Fossils from Wilmington, North Carolina.

Am. Assoc. Adv. Sci., Proc., 1st meet. (1848): 32-33.

Mentions specimens of *Ammonites placenta* and *Trigonia thoracica* from Wilmington.

1791. TUTTLE, EDGAR G.

The Deep River coal field of North Carolina and the Egypt Coal Company's plant.

Eng. & Min. Jour., v. 58 (1894): 441.

Describes mining developments and operations at the Deep River coal field in Moore and Chatham counties.

1792. TYSON, PHILIP T_{homas}.

Report on the gold deposits and works of the Manteo Mining Company in North Carolina. Baltimore, John D. Toy, 1853. 27 pp. 22 cm. Maps.

Describes the Jones and Loflin mines in Randolph county.

1793. ——— Report on the gold deposits and works of the Perseverance Mining Company in North Carolina. (The Russell mine.) Baltimore, John D. Toy, 1853. 12 pp. 23½ cm. Map.

Description of this property located in Montgomery county, with a map of the mine.

1794. ULKE, TITUS.

The occurrence of tin ore at King's Mountain.

(In *U. S. Geol. Survey, Min. Res.*, 1893. pp. 178-182.)

Describes deposits of cassiterite at King's Mountain in Cleveland county.

1795. Union Copper Mining Co.

Eng. & Min. Jour., v. 68 (1899): 631.

Description of a promising copper deposit near Salisbury, Rowan county.

1796. U. S. Coast & Geod. Survey.

Atlantic Coast Pilot, Vol. 7. From Chesapeake bay entrance to Key West. Wash., 1895. 150 pp. 30 cm.

Contains descriptions of North Carolina rivers and sounds.

1797. ——— Atlantic local coast pilot. Sub-division 19. Cape Henry to Winyaw bay and inside passages. Wash., 1885. 80 pp. 30 cm.

Description of the North Carolina coast.

1798. VANCE, ZEBULON B_[AIRD].
Sketches of North Carolina. Norfolk, Va., 1875. 106 pp.
23 cm.
Contains account of physical aspect of the state, particularly of Catawba valley and Roan mountain.
1799. VAN HISE, C_[HARLES] R_[ICHARD].
Pre-Cambrian rocks of North Carolina.
(In his Correlation papers. Archaean and Algonkian. U. S. Geol. Survey, Bull. 86. Wash., 1892. pp. 418-422; 427-439.)
Summarizes the geological work done in North Carolina by Olmsted, Mitchell, Emmons and Kerr. Includes a list of literature on the subject.
1800. VAN NESS, W. W. J.
Tin in North Carolina.
Eng. & Min. Jour., v. 44 (1887): 344.
Description of tin deposits at King's Mountain.
1801. VANUXEM, LARDNER.
Description and analysis of the zirconite of Buncombe county, North Carolina.
Acad. Nat. Sci. Phila., Jour., v. 3, pt. 1 (1823): 59-64.
Abstract: Bull. des Sci. Nat. et de Géol., v. 1 (1824): 30-31.
Notice: Leonhard's Zts. f. Min., 1826, Bd. 1, p. 264.
Mineral came from Saluda mountain. Locality discovered prior to 1822 by T. D. Porter of South Carolina College.
1802. VAUGHAN, F. E.
Albemarle section of North Carolina, traversed by the Norfolk and Southern Railroad. New York, John C. Rankin, Jr., 1884. 81 pp. 23 cm.
General description of locality, with notes on the swamp lands and climate.
1803. VAUGHAN, FRANK.
The Albemarle district of North Carolina. A brief sketch of its history and people: its topography and physical features; its fertile lands; its rivers and great inland seas; its forests and fields; its products of land and water; its climate and healthfulness. . . Elizabeth City, N. C., 1895. 32 pp. 23½ cm.
1804. VENABLE, F_[RANCIS] P_[RESTON].
Analysis of water from the artesian well at Durham, North Carolina.
Elis. Mit. Sci. Soc., Jour., v. 4, pt. 1 (1887): 57-58.
1805. — A list and description of the meteorites of North Carolina.
Elis. Mit. Sci. Soc., Jour., v. 7 (1890): 33-51.
Notice: Am. Geol., v. 6 (1890): 325.
Descriptions of twenty-three meteorites reported as found in North Carolina. A few of these are doubtful.
No. 1. Meteoric iron from Cedar creek, Alexander county. No analysis. See No. 60.

- No. 2. Meteoric stone from Ashe county. *See No. 1580.*
 No. 3. Meteoric iron from Asheville, Buncombe county. *See No. 1641.*
 No. 4. Meteoric iron from Black mountain, Buncombe county. *See No. 1644.*
 No. 5. Meteorite from Hominy creek, Buncombe county. *See No. 1645.*
 No. 6. Meteoric iron from Linnville mountain, Burke county. *See Nos. 1035; 1864.*
 No. 7. Meteoric iron from Bridgewater, Burke county. *See No. 1036.*
 No. 8. Meteorite from Post farm, Cabarrus county. *See Nos. 656; 1633.*
 No. 9. Meteorite from Caldwell county. No analysis.
 No. 10. Magnetic meteorite from Caswell county. *See No. 270.*
 No. 11. Meteorite from Lick creek, Davidson county. *See No. 783.*
 No. 12. Meteoric iron from Guilford county. *See No. 1631.*
 No. 13. Meteorite from Haywood county. *See No. 1632.*
 No. 14. Meteoric stone from Ferguson, Haywood county. No analysis. *See No. 1636.*
 Nos. 15 and 16. Meteoric masses from Duel Hill, Madison county. No analyses.
 No. 17. Meteorite from Duel Hill, Madison county. *See No. 1677.*
 No. 18. Meteoric mass from Duel Hill, Madison county. *See No. 225.*
 No. 19. Meteorite from Castalia, Nash county. *See No. 1673.*
 No. 20. Meteoric iron from Randolph county. *See No. 1367.*
 No. 21. Meteoric iron from Smith's mountain, Rockingham county. *See No. 1685.*
 No. 22. Meteoric mass from Deep Springs farm, Rockingham county. *See No. 1810.*
 No. 23. Pseudo-meteorite from Rutherfordton, Rutherford county. *See No. 1627.*
 No. 24. Meteoric iron from Ellenboro, Rutherford county. *See No. 519.*
1806. — Meteorological record at Chapel Hill for the year 1885.
 Elis. Mit. Sci. Soc., Jour., v. 3 (1886): 34-36.
 General account of the temperature, humidity, rainfall and winds for this year, with table of monthly records.
1807. — The occurrence of platinum in North Carolina.
 Elis. Mit. Sci. Soc., Jour., v. 8 (1891): 123-129.
 Note: Am. Jour. Sci., Ser. III, v. 43 (1892): 540
 Reviews the literature regarding the occurrence of platinum in the state, quoting from Clingman, C. U. Shepard, and others.
1808. — Occurrence of zirconium.
 Elis. Mit. Sci. Soc., Jour., v. 8 (1891): 74-78.
 Discusses the general distribution of zirconium bearing minerals, giving the distribution of zircon in Burke, McDowell, Polk, Rutherford, Caldwell, Mecklenburg, Nash, Warren and other counties.
1809. — Treatment of zircons in preparing pure zirconium oxychloride.
 Elis. Mit. Sci. Soc., Jour., v. 8 (1891): 20-24.
 North Carolina zircons used.
1810. — Two new meteoric irons.
 Am. Jour. Sci., Ser. III, v. 40 (1890): 161-163.
 — Elis. Mit. Sci. Soc., Jour., v. 7 (1890): 31-32.
 Abstract: Nature, v. 42 (1890): 432.
 Description and analysis of meteoric mass from Rockingham county, reported to have fallen about 1846.

VOM RATH, GERHARD.

See Rath, Gerhard vom.

1811. WADDELL, C_[HARLES] E_[DWARD].

The preservation of the southern Appalachian streams. A forest problem.

Am. Inst. Elec. Eng., Proc., v. 24 (1905): 839-842.

Physiographic description of the southern Appalachian plateau and discussion of the water-powers of the region.

1812. — Southern Appalachian streams.

Frank. Inst., Jour., v. 164 (1907): 161-175.

Discussion of the streams of the southern Appalachian region, including the prominent rivers of North Carolina, and description of general physiographic features of the country.

WADSWORTH, M_[ARSHMAN] E_[DWARD].

The Azoic system in North Carolina.

See Whitney and Wadsworth, No. 1866.

1813. — Dunite from North Carolina.

(In Lithological studies. Mus. Comp. Zool. Harvard, Memoirs, v. 11 (1884): 118-120.)

Discussion of dunite from Franklin and Webster.

1814. — North Carolina meteorites.

(In Lithological studies. Mus. Comp. Zool. Harvard, Memoirs, v. 11 (1884): 71; 103-104.)

Describes meteoric pallasite from Hominy creek, Buncombe county, and a meteoric peridotite from Charlottetown, Cabarrus county.

1815. — Olivine rocks of North Carolina.

Science, v. 3 (1884): 486-487.

Discusses occurrence and origin of the olivine rocks of the state.

1816. WAGNER, WILLIAM.

Description of five new fossils of the older pliocene formation of Maryland and North Carolina.

Acad. Nat. Sci. Phila., Jour., v. 8, pt. 1 (1839): 51-53.

Describes and figures *Pecten marylandicus*, *Panopæa goldfussi* and *Mysia nucleiformis* from the Meherrin river.

1817. WAHL, WILLIAM H., KELLER, HARRY F. and WOLF, T. R.

Memoir of Frederick August Genth.

Frank. Inst., Jour., v. 135 (1893): 448-452.

Refers especially to Genth's "Minerals of North Carolina," and to his monograph on "Corundum, its alterations and associated minerals."

1818. WAINWRIGHT, J. ARTHUR.

Monazite.

Eng. & Min. Jour., v. 80 (1905): 118.

Describes occurrence of monazite in the South Mountain section of North Carolina.

1819. WAINWRIGHT, RICHARD.

Changes in Hatteras inlet, North Carolina.

(In U. S. Coast Survey, Rept. 1850. Wash., 1851. Appendix 16, pp. 94-95.)

1820. Wake county, North Carolina. Its resources, its products and its people. Prepared under direction of its Exposition Committee. Raleigh, Edwards, Broughton & Co., 1884. 16 pp. 23 cm. Map. Prepared by the Southern Interstates Exposition Committee. Raleigh, Edwards & Broughton, 1891. 15 pp. 22½ cm. Map.
1821. WALCOTT, CHARLES DUOLITTLEJ.
 [Cambrian in North Carolina.]
(In his Correlation papers. Cambrian. U. S. Geol. Survey, Bull. 81. Wash., 1891. pp. 138-139; 299; 383.)
 Contains discussion of geological formations on extreme western boundary of the state.
1822. WALKER, P. H.
 Analysis of "genthite" from North Carolina.
Am. Chem. Jour., v. 10 (1888): 44.
 Review by W. S. BAgleyJ: *Neues Jahr. f. Min.*, 1888, p. 386.
 Abstract by H. BAkerJ: *Chem. Soc. (London) Jour.*, v. 54 (1888): 660.
 Abstract by E. S. Dana: *Zts. f. Kryst. u. Min.*, v. 17 (1889): 399.
 Analysis of this mineral from Webster, Jackson county.
1823. WALTON, GEORGE E.
 [Mineral springs in North Carolina.]
(In his Mineral springs of the United States and Canada . . . New York, Appleton & Co., 1873. 20 cm. pp. 213; 307-309.)
 Brief descriptions of Shocco Springs and Warren White Sulphur Springs in Warren county, and Warm Springs (Hot Springs), Madison county, with analysis of the water.
1824. WARD, HENRY L.
 Notice of a new meteorite from Murphy, Cherokee county, North Carolina.
Am. Jour. Sci., Ser. IV, v. 8 (1899): 225-226.
 Abstract by G. LIneckJ: *Neues Jahr. f. Min.*, 1901, Bd. 2. Min. p. 38.
 Description of this meteorite.
1825. WARD, LESTER FIRANKJ.
 North Carolina area [of mesozoic flora].
(In U. S. Geol. Survey, 20th Ann. Rept., pt. 2. Wash., 1900. pp. 266-272.)
 General résumé of data concerning the Deep and Dan River coal fields.
1826. WARD, LESTERJ FIRANKJ.
 The plant-bearing deposits of the American trias,
Geol. Soc. Amer., Bull., v. 3 (1891): 23-31.

—— Science, v. 18 (1891): 287-288.

Abstract: Am. Assoc. Adv. Sci., Proc., 40th meet. (1891): 286-288.

Discusses North Carolina deposits or areas. Contains tables showing distribution of fossil species.

1827. WARD, WILLARD P.

The gold deposits of the southern states.

Eng. & Min. Jour., v. 9 (1870): 392.

Notes on gold deposits and production in North Carolina.

1828. WARING, ROBERT P.

[Production of precious metals in North Carolina.]

(In U. S. Mint, Prod. of precious metals in U. S. in 1885.

Wash., 1886. pp. 185-188.)

—— (In U. S. Mint, Prod. of precious metals in U. S. in 1886.

Wash., 1887. pp. 233-238.)

—— (In U. S. Mint, Prod. of precious metals in U. S. in 1887.

Wash., 1888. pp. 246-250.)

—— (In U. S. Mint, Prod. of precious metals in U. S. in 1888.

Wash., 1889. p. 161.)

Yearly reports of production.

WASHINGTON, HENRY SHERMAN.

Contributions to mineralogy.

See *Hidden and Washington*, No. 770.

1829. WATSON, THOMAS L[EONARD] and LANEY, FRANCIS B[AKER],
(with collaboration of George P. Merrill).

Building and ornamental stones of North Carolina.

N. C. Geol. Survey, Bull. 2. Raleigh, E. M. Uzzell, 1906.

283 pp. 26 cm. Plates. Illus. Maps.

Review by J. H. Pratt: Elis. Mit. Sci. Soc., Jour., v. 22 (1906):

63-79. Am. Jour. Sci., Ser. IV, v. 23 (1907): 70-71.

Review: Eng. & Min. Jour. v. 82 (1906): 1083.

Deals with resources of the state in the way of building and ornamental stones, their location, economic and commercial possibilities. Describes the deposits of granite, limestones, marbles, serpentines, sandstones and quartzite, their structure and distribution, quarrying methods, and gives account of microscopical examinations of the rocks.

1830. WATSON, THOMAS L[EONARD].

Copper-bearing rocks of Virgilina copper district, Virginia and North Carolina.

Geol. Soc. Amer., Bull., v. 13 (1902): 353-376.

—— Den. Univ. Sci. Lab., Bull., v. 12 (1903): 97-127.

Abstract: Am. Chem. Research, Rev., v. 9 (1903): 114.

Abstract by W. S. Bayley: Neues Jahr. f. Min., 1904, Bd. 2.

Min. p. 73.

Contains results of a field examination of this district located in Halifax county, Virginia, and Granville and Person counties, North Carolina. Describes geological formations, petrography of the rocks, ore deposits, weathering, age and general relations. Includes tables of chemical analyses.

1831. ——— Granites of North Carolina.
 Jour. of Geol., v. 12 (1904): 373-407.
 Notice by W: *Geol. Centralblatt*, v. 9 (1907): 674.
 Describes geographical and geological distribution of the granite deposits, the three types found in the state, their structural features, megascopic and microscopic, their lithological characters general and age relations to the other rocks.
1832. ——— The leopardite (quartz-porphry) of North Carolina.
 Jour. of Geol., v. 12 (1904): 215-224.
 ——— *Den. Univ. Sci. Lab., Bull.*, v. 12 (1904): 224-230.
 Notice by W: *Geol. Centralblatt*, v. 9 (1907): 674.
 Describes outcrops of leopardite in Mecklenburg county, and describes the rock megascopically and microscopically in detail. Chemical composition by F. A. Genth is given. (*See No. 634.*)
1833. ——— Occurrence of unakite in a new locality in Virginia.
 Am. Jour. Sci., Ser. IV, v. 22 (1906): 248.
 Contains notes on occurrence of unakite in Madison county, North Carolina.
1834. ——— Orbicular gabbro-diorite from Davie county, North Carolina.
 Jour. of Geol., v. 12 (1904): 294-303.
 Description of geological occurrence and microscopical character of this rock found in the eastern part of Davie county.
1835. ——— Structural relations of the granite of North Carolina.
 Science, n. s., v. 19 (1904): 526.
 Abstract of a paper read before the Geological Society of America. Describes occurrence, distribution and petrography of the North Carolina granites, with special reference to their structural and age relations.
1836. ——— [The Virgilina copper district.]
 (*In his Mineral resources of Virginia. Lynchburg, Va., J. B. Bell Co., 1907. 26 cm. pp. 494-500.*)
 Brief description of the Virgilina copper district which extends for about 30 miles into North Carolina in Granville and Person counties.
- The Virginia copper deposits.
 See Weed and Watson, No. 1847.
1837. WEAVER, CHARLES CLINTON.
 Rivers [and] canals.
 (*In his Internal improvements in North Carolina previous to 1860. Johns Hopkins Univ. Studies in historical and political science, Ser. XXI, No. 4. Baltimore, Johns Hopkins Press 1903. 24 cm. pp. 49-75.*)
 Outlines history of improvement of navigation of the Cape Fear, Tar, Roanoke and Neuse rivers, and describes building the Dismal Swamp canal.
1838. WEAVER, W. J.
 River adjustments in North Carolina.
 Elis. Mit. Sci. Soc., Jour., v. 13 (1896): 13-24.
 Topographic description of the state with a few geological notes. Describes four great river systems, the Deep River syncline, the Dan River syncline, the King's Mountain and the Asheville synclines, and their drainage basins. Mentions numerous instances of stream capture.

1839. WEBSTER, N_[ATHAN_] B_[URNHAM_].
 North Carolina. Phila., J. B. Lippincott Co., 1891. 7 pp.
 18 cm.
 — — — Chambers' encyclopedia, v. 7 (1901): 523.
 Descriptive of the state in a general way, mentioning
 physiographic features and mineral resources.
1840. WEED, W_[ALTER_] H_[ARVEY_].
 Copper deposits of the Appalachian States.
 (In U. S. Geol. Survey, Bull. 213. Wash., 1903. pp. 181-
 185.)
 Describes copper deposits and mining operations in the
 Virgilina district in Person and Granville counties, and at
 Gold Hill in Rowan county.
1841. — — — Copper in North Carolina.
 (In Mineral Industry, v. 10 (1902): 184-185.)
 Notes on copper mining at Gold Hill, Rowan county, and
 at the Ore Knob mine in Ashe county.
1842. — — — Copper mines of _[North Carolina_].
 (In his Copper mines of the world. New York & London,
 Hill Pub. Co., 1908. 24 cm. pp. 270-273.)
 Names the copper veins and mines in North Carolina.
1843. — — — The copper mines of _[North Carolina_] in 1905.
 (In U. S. Geol. Survey, Bull. 285. Wash., 1906. pp. 93;
 115-116.)
 Notes on copper production from the mines of the Gold
 Hill and Virgilina districts.
1844. — — — Notes on the Carolina gold deposits.
 Eng. & Min. Jour., v. 72 (1901): 494.
1845. — — — Recent development of southern copper deposits.
 Eng. & Min. Jour., v. 74 (1902): 80-81.
 Contains notes on the mines of the Virgilina and Gold
 Hill copper districts.
1846. — — — Types of copper deposits in the southern United States.
 Am. Inst. Min. Eng., Trans., v. 30 (1900): 449-504.
 Contains detailed description of four types of copper de-
 posits in North Carolina: the Virgilina, Gold Hill, Duck-
 town and Catoctin types. Describes the ores, mines and
 mining operations.
1847. — — — and WATSON, T_[HOMAS_] L_[EONARD_].
 The Virginia copper deposits.
 Econ. Geol., v. 1 (1906): 309-330.
 Contains account of the deposits of copper ore in the "Vir-
 gilina district," which extends into Person and Granville
 counties, North Carolina.
1848. WEEKS, JOSEPH D.
 Manganese _[in North Carolina_].
 (In U. S. Geol. Survey, Min. Res., 1885. Wash., 1885.
 p. 344.)
 — — — (In U. S. Geol. Survey, Min. Res., 1886. Wash., 1887.
 pp. 190-193.)
 — — — (In U. S. Geol. Survey, Min. Res., 1887. Wash., 1888.
 p. 151.)

- ——— (In U. S. Geol. Survey, Min. Res., 1888. Wash., 1890. pp. 129-130.)
Contains analysis of ore from Jackson county.
- ——— (In U. S. Geol. Survey, Min. Res., 1889-1890. Wash., 1892. p. 134.)
- ——— (In U. S. 11th Census, Rept. Min. Indust., 1890. Wash., 1892. pp. 304-305.)
Contains notes on deposits in Chatham, Madison, Gaston, Lincoln and Catawba counties, with analyses of ores.
- ——— (In U. S. Geol. Survey, Min. Res., 1893. Wash., 1894. p. 132.)
- ——— (In U. S. Geol. Survey, 16th Ann. Rept., pt. 3. (Met. Products.) Wash., 1895. p. 420.)
- ——— (In U. S. Geol. Survey, 17th Ann. Rept., pt. 3. (Met. Products.) Wash., 1896. p. 199.)
Yearly reports of production.
- WEINSCHENK, E.
Meteoreisen—Studien.
See Cohen and Weinschenk, No. 327.
1849. WELCH, WILLIAM L.
Opening of Hatteras inlet.
Essex Inst., Bull., v. 17 (1885): 37-42.
- ——— Salem, Mass., 1885. 13 pp.
Discusses time of opening of inlet.
1850. ——— Through which inlet did the English adventurers of 1584 enter the sounds of North Carolina? Also some changes in the coast line since their time.
Essex Inst., Bull., v. 17 (1885): 43-47.
Discussion of this question.
1851. WENDT, ARTHUR FREDERICK.
The pyrites deposits of the Alleghanies.
School of Mines Quart., v. 7 (1886): 154-188; 218-235; 301-323.
- ——— Eng. & Min. Jour., v. 42 (1886): 407-410; 426-428; 446-447; v. 43 (1887): 4-5; 22-24.)
Contains account of the Ore Knob copper mine, Ashe county, and gives methods of mining and statistics of production.
1852. Western North Carolina. Historical and biographical. Charlotte, N. C., A. D. Smith & Co., 1890. 462 pp. 27 cm. Map.
Contains chapters on geology of North Carolina by George B. Hanna; on area, topography and characteristics, by John D. Cameron, and descriptions of separate counties. (See under authors.)
1853. Western North Carolina Land Company. Norristown, Pa., 1877.
20 pp. 23 cm. Map.
Contains notes on advantages of land in the western part of the state.

1854. WETHERBY, A. G.

Geological structure and metalliferous deposits of Roan mountain, North Carolina.

Ohio Mechanic's Inst., Sci. Proc., v. 1 (1882): 49-50.

Notice of a lecture delivered on the above subject.

1855. — Natural history notes from North Carolina.

Cin. Soc. Nat. Hist., Jour., v. 16 (1893): 87-93; 209-216;
v. 17 (1894): 69-77.

Contains (pp. 87-89) geological description of region in vicinity of "Roandale Farm" in Mitchell county.

1856. WETHERILL, CHARLES M.

Experiments on itacolumite (articulite) with the explanation of its flexibility and its relation to the formation of the diamond.

Am. Jour. Sci., Ser. II, v. 44 (1867): 61-68.

Describes and analyzes itacolumite from Saraw mountain, Stokes county, and discusses its relation to the diamond.

1857. WHEELER, J₁OH₁N₁ H₁LL₁.

Gold mines of North Carolina.

Amer. Almanac, 1841, pp. 211-217.

Abstract & review: Merchant's Mag., v. 11 (1844): 62-65.

Historical account of discovery of gold at Reed's mine in Cabarrus county, Parker's mine in Montgomery county, Dunn's mine in Mecklenburg county, and the Burke county mines. Describes the deposits and gives statistics of production.

1858. — North Carolina: her past, present and future. . . Raleigh,
"Standard" steam book and job print, 1870. 32 pp.
23 cm.

Discusses history, education and productions of the state. Contains notes on soil, climate, gold and silver, iron and coal mines.

1859. WHITE, CHARLES A₁BIATHAR₁.

Cretaceous ₁in North Carolina₁.

(In his Correlation papers. Cretaceous. U. S. Geol. Survey,
Bull. 82. Wash., 1891. pp. 91-92.)

Refers Cretaceous of the state to the Potomac formation and cites Kerr on the subject.

1860. WHITE, CHARLES H₁ENRY₁.

An examination into the nature of *Palæotrochis*.

Elis. Mit. Sci. Soc., Jour., v. 11 (1894): 50-66.

Discusses origin of *Palæotrochis* and gives summary of literature on the subject.

1861. WHITE, L. N.

The Virgilina copper district.

Mining & Metallurgy, v. 24 (1901): 635-639.

Describes geology of the Virgilina copper district, situated in Halifax county, Virginia, and Person county, North Carolina; veins, character and value of the ores, mines and mining operations.

1862. WHITFIELD, J. EDWARD.
Coal from Walnut Cove, Stokes county, North Carolina.
(In U. S. Geol. Survey, Bull. 42. Wash., 1887. p. 146.)
Analysis of this coal.
1863. ——— Iron ore from Mitchell county, North Carolina.
(In U. S. Geol. Survey, Bull. 60. Wash., 1890. p. 168.)
Analysis of this ore.
1864. ——— Linnville Mountain meteorite.
(In U. S. Geol. Survey, Bull. 60. Wash., 1890. p. 107.)
——— (In U. S. Geol. Survey, Bull. 148. Wash., 1897. p. 244.)
——— (In U. S. Geol. Survey, Bull. 168. Wash., 1900. p. 241.)
Analysis of this meteorite from Burke county.
1865. WHITING, HENRY L.
Survey of Beaufort, North Carolina.
(In U. S. Coast Survey, Rept. 1851. Appendix 28. pp. 482-484.)
Describes natural character of Beaufort.
1866. WHITNEY, JOSIAH D WIGHT and WADSWORTH, MARSHMAN EDWARD.
The Azoic system in North Carolina.
(In The Azoic system and its proposed sub-division. Harvard College, Mus. Comp. Zool., Bull., v. 7 (1884): 476-479.)
Quotes from W. C. Kerr and F. H. Bradley in regard to the rock formations in North Carolina.
1867. WHITNEY, JOSIAH D WIGHT.
Metallic wealth of North Carolina.
(In his Metallic wealth of the United States. Phila., Lipincott, 1854. 25 cm. pp. 129-133; 320-322; 474.)
Review: Gött. Gel. Anz., 1856, p. 1323.
Abstract: Neues Jahr. f. Min., 1858, pp. 327-330.
Contains historical and statistical notes on gold, copper and iron ores of the state, and describes the principal mines and mining operations.
1868. ——— Remarks on the changes which take place in the structure and composition of mineral veins near the surface, with particular reference to the East Tennessee copper mines.
Min. Mag., Ser. I, v. 5 (1855): 24-28.
Discusses the change from oxidized ores to sulphides as depth increases, and cites North Carolina mines as examples.
1869. WHITNEY, MILTON.
Alamance county, North Carolina.
(In U. S. Dept. Agric., Field operations, Bureau of soils, 3d rept., 1901. Wash., 1902. pp. 57-58.)
Account of work done in this county for year 1901.
1870. ——— Cary and Craven areas, North Carolina.
(In U. S. Dept. Agric., Field operations, Bureau of soils, 3d rept., 1901. Wash., 1902. pp. 58-59.)
Résumé of work done in these areas during 1901.

1871. — Hickory area, North Carolina.
(In U. S. Dept. Agric., Field operations, Bureau of soils,
4th Rept., 1902. Wash., 1903. pp. 46-49.)
Review of work done in this district for 1902.
1872. — Mount Mitchell area, North Carolina.
(In U. S. Dept. Agric., Field operations, Bureau of soils,
4th Rept., 1902. Wash., 1903. pp. 49-51.)
Review of work done in this area in 1902.
1873. — North Carolina area.
(In General review of work. U. S. Dept. Agric., Field
Operations, Bureau of soils, 2d Rept. Wash., 1901. pp.
35-39.)
1874. — Statesville area, North Carolina.
(In U. S. Dept. Agric., Field operations, Bureau of soils,
3d Rept., 1901. Wash., 1902. pp. 55-57.)
Review of work done in this area during 1901.
1875. WIECHMANN, F. G.
Fusion-structures in meteorites.
N. Y. Acad. Sci., Annals, v. 2 (1882): 289-312.
Study of fusion structures in meteorites, which includes
the Cabarrus county meteorite.
1876. WIELAND, GEORGE R₁EBER₁.
Currituck sound, Virginia and North Carolina.
Am. Jour. Sci., Ser. IV, v. 4 (1897): 76-77.
Describes the closing of Currituck inlet, by drifting sands,
in 1828.
1877. — The depth of peat in the Dismal Swamp.
Am. Jour. Sci., Ser. IV, v. 4 (1897): 76.
1878. WILDER, D. B.
Report of the superintendent of the North Carolina copper
mine.
Min. Mag., Ser. I, v. 2 (1854): 77-78.
1879. WILDER, EDWARD B.
Report on the North Carolina copper mine. N. C., 1853.
6 pp. 22 cm.
Report on condition of this mine located in Gullford
county.
1880. WILEY, C₁ALVIN₁ H₁ENDERSON₁.
The North Carolina reader, containing a history and descrip-
tion of North Carolina. Phila., Lippincott, Grambo & Co.,
1851. 359 pp. 19 cm.
Contains general description of the physical features of
the state, with notes on the mineral interests.
- WILKENS, HENRY A. J.
Gold mining in North Carolina and adjacent south Appa-
lachian regions.
See Nitze and Wilkens, No. 1292.

- The present condition of gold mining in the southern Appalachian States.
See Nitze and Wilkens, No. 1305.
1881. WILKES, CHARLES.
 Examination of the Deep River country.
 U. S. 35th Cong., 2d Sess., 1859. Sen. Ex. Doc. 26. 29 pp
 Maps.
- — N. C. Gen. Assem., Sess. 1858-1859. Doc. No. 60. 40 pp.
 Maps.
 Report of an examination of the coal and iron resources of this district in Moore and Chatham counties. Describes geological formations, coal and iron outcrops, quality and value of the ores, and includes many chemical analyses of both coal and iron.
1882. WILKES, J. FRANK.
 Gold mining in the south.
 Eng. Assoc. South., Proc., v. 19, No. 1 (1908): 1-15.
 General discussion of gold mining in the South, with historical notes on gold discovery in North Carolina. Outlines occurrence of gold, and general mining methods.
1883. WILLCOX, JOSEPH.
 Corundum in North Carolina.
 Acad. Nat. Sci. Phila., Proc., [v. 30] (1878): 223.
 Abstract by E. S. Dana: Zts. f. Kryst. u. Min., v. 3 (1879): 597.
 States that corundum has been discovered near Statesville in Iredell county.
1884. — Mountain drainage of eastern Tennessee and western North Carolina.
 Acad. Nat. Sci. Phila., Proc., [v. 26] (1874): 164-165.
 Notes on physiography and drainage of western North Carolina.
1885. — On mineral localities in North Carolina.
 Acad. Nat. Sci. Phila., Proc., [v. 27] (1875): 467-468.
 Enumerates many mineral species and localities.
1886. — On samarskite.
 Acad. Nat. Sci. Phila., Proc., [v. 27] (1875): 263.
 Describes specimen of samarskite found among the mountains in Mitchell county, associated with decomposed feldspar.
1887. — [Remarks on corundum alteration.]
 Acad. Nat. Sci. Phila., Proc., [v. 24] (1872): 266.
 Describes alteration in corundum specimens found in Clay and Macon counties.
1888. WILLIAMS, ALBERT JR.
 Useful minerals of [North Carolina].
 (In U. S. Geol. Survey, Min. Res., 1887. Wash., 1888. pp. 769-774.)
 Tables of minerals mined in North Carolina, and of those known to occur but not mined, with their localities.

1889. WILLIAMS, GEORGE H_[UNTINGTON_].

The distribution of ancient volcanic rocks along the eastern border of North America.

Jour. of Geol., v. 2 (1894): 1-31.

Abstract: *Am. Geol.*, v. 13 (1894): 212-213.

Describes volcanic rocks in Chatham and Orange counties.

1890. — The non-feldspathic intrusive rocks of Maryland, and the course of their alteration.

Am. Geol., v. 6 (1890): 35-49.

Contains (pp. 43-44) description of pyroxenites, bronzite-diopside aggregates, found near Webster, Jackson county. Analysis by E. A. Schneider. (*See Schneider, No. 1602.*)

1891. WILLIAMSON, HUGH.

History of North Carolina. Phila., Thomas Dobson, 1812.

2 vols. 22 cm. Map.

Extract: *Eclect. Repertory*, v. 3 (1812): 1-13.

Chapter 13, v. 2, gives account of climate with notes on rivers, swamps and soil.

1892. WILLIS, BAILEY.

The Appalachian revolution.

Science, n. s., v. 25 (1907): 867.

Abstract of discussion before the Geol. Soc. of Wash. on Appalachian structure

1893. — Mechanics of Appalachian structure.

(*In U. S. Geol. Survey*, 13th Ann. Rept., 1891-1892, pt. 2.

Wash., 1893. pp. 211-282. Maps.)

Abstract by von Koenen: *Neues Jahr. f. Min.*, 1895, Bd. 2.

Min. pp. 48-52.)

Describes four structural districts of the Appalachian province, one of which includes the Smoky mountains.

1894. — Notes on samples of iron ore collected in North Carolina.

(*In U. S. 10th Census Rept.*, v. 15, Mining Industries, Wash., 1886. pp. 301-329.)

Describes and gives analyses of iron ores from Halifax, Chatham, Moore, Harnett, Johnston, Orange, Guilford, Rockingham, Stokes, Surry, Lincoln, Gaston, Burke, Ashe, Mitchell, Madison and Cherokee counties, the mines and mining operations.

1895. — Round about Asheville.

Nat. Geog. Mag., v. 1 (1889): 291-300.

Popular account of topographic forms near Asheville, between the Blue Ridge on the east, and the Unaka Mountain chain on the west, with general descriptions of the rocks, rivers and plains.

1896. WILLIS, EDWARD.

Phosphate rock in North Carolina.

(*In U. S. 11th Census, Rept. Min. Ind.*, 1890. Wash., 1892.

p. 690.)

Describes quality and value of phosphate deposits in Sampson, Duplin, Pender, Onslow, Columbus and New Hanover counties. Table of statistics of production.

1897. Wilmington, North Carolina. Chamber of Commerce.
Wilmington, North Carolina. Past, present and future.
History of its harbor, with detailed reports of the work for
improving and restoring the same now being conducted by
the U. S. Government. . . Wilmington, N. C., J. A. Engle-
hard, 1872. 84 pp. 21½ cm.
1898. WILSON, A. E.
Analysis of red hematite from Forsyth county.
Elis. Mit. Sci. Soc., Jour., v. 2 (1885): 95.
1899. WILSON, E. B.
Gold washing in the South.
Eng. & Min. Jour., v. 82 (1906): 933.
Brief notes on methods of gold washing in North Caro-
lina.
1900. WILSON, FURMAN R.
The "Wilson" steam stamp mill.
Am. Jour. Mining, v. 6 (1868): 324.
Describes use and success of this mill at the Russell mine,
Montgomery county.
1901. WILSON, H. M.
Results of primary triangulation and primary traverse for
year 1900-1901 [in North Carolina].
(In U. S. Geol. Survey, Bull. 181. Wash., 1901. pp. 143-
146.)
— Results of primary triangulation and primary traverse for
year 1901-1902.
(In U. S. Geol. Survey, Bull. 201. Wash., 1902. pp. 38-42.)
Contain tables of geographic positions along railways.
1902. ——— Triangulation and spirit leveling [in North Carolina].
(In U. S. Geol. Survey, 18th Ann. Rept., pt. 1. Wash.,
1897. pp. 295-310.)
— ——— (In U. S. Geol. Survey, 19th Ann. Rept., pt. 1. Wash.,
1898. pp. 242-247.)
— ——— (In U. S. Geol. Survey, 20th Ann. Rept., pt. 1. Wash.,
1899. pp. 370-380; 383-387.)
Tables of elevations taken in Buncombe, Haywood, Hen-
derson, Transylvania and Jackson counties.
1903. WILSON, JOHN M.
[River and harbor improvements in North Carolina.]
(In Chief of Eng. Rept., 1897, pt. 1. Wash., 1897. pp. 195-
213.)
— ——— (In Chief of Eng. Rept., 1898, pt. 1. Wash., 1898. pp.
198-212.)
— ——— (In Chief of Eng. Rept., 1899, pt. 1. Wash., 1899. pp.
228-245.)
— ——— (In Chief of Eng. Rept., 1900, pt. 1. Wash., 1900. pp.
261-277.)
Reports of progress.

1904. WINSLOW, ARTHUR.
North Carolina mining notes.
Eng. & Min. Jour., v. 39 (1885): 260; v. 40 (1885): 218.
Notes on the St. Catherine mine in Mecklenburg county, the Rudisill mine, the Ormond iron ore bank, Hoover Hill mine in Randolph county, and on mica mining in Mitchell county.
1905. — Phosphate deposits of North Carolina.
Eng. & Min. Jour., v. 39 (1885): 193.
Notes on the development of the phosphates of Sampson and Duplin counties.
1906. — Report on pyrites in North Carolina.
(In N. C. Agric. Exp. Station, Rept. 1885. Raleigh, P. M. Hale, 1886. pp. 93-106.)
Account of explorations from pyrites in Gaston county, with analysis of samples from the St. Catherine, Rudisill, Allen Furr, Phoenix and North State mines.
1907. WINSLOW, E. EVELETH.
Improvement of Cape Fear river, North Carolina, at and below Wilmington.
(In Chief of Eng. Rept., 1903, pt. 2. Appendix N 12, pp. 1107-1113.)
1908. — Improvement of Edenton bay, North Carolina.
(In Chief of Eng. Rept., 1904, pt. 2. Appendix L 10, p. 1378.)
—— — (In Chief of Eng. Rept., 1906, pt. 1. Appendix L 11, pp. 1138-1139.)
1909. — Improvement of Fishing creek, North Carolina.
(In Chief of Eng. Rept., 1903, pt. 2. Appendix N 3, pp. 1093-1094.)
1910. — Improvement of harbor at Beaufort, North Carolina.
(In Chief of Eng. Rept., 1903, pt. 2. Appendix N 8, pp. 1102-1103.)
1911. — Improvement of inland water route from Norfolk, Virginia, to Albemarle sound, through Currituck sound.
(In Chief of Eng. Rept., 1903, pt. 2. Appendix M 9, pp. 1084-1086.)
—— — (In Chief of Eng. Rept., 1904, pt. 2. Appendix L 9, pp. 1376-1378.)
—— — (In Chief of Eng. Rept., 1905, pt. 1. Appendix L 9, pp. 1196-1198.)
—— — (In Chief of Eng. Rept., 1906, pt. 1. Appendix L 9, pp. 1135-1137.)
Reports of progress.
1912. — Improvement of Neuse and Trent rivers, North Carolina.
(In Chief of Eng. Rept., 1903, pt. 2. Appendix N 6, pp. 1097-1100.)
1913. — Improvement of Northeast and Black rivers, and Cape Fear river above Wilmington, North Carolina.
(In Chief of Eng. Rept., 1903, pt. 2. Appendix N 11, pp. 1105-1109.)

1914. — Improvement of Pamlico and Tar rivers, North Carolina.
(*In Chief of Eng. Rept.*, 1903, pt. 2. Appendix N 4, pp. 1094-1096.)
1915. — Improvement of Perquimans river, North Carolina.
(*In Chief of Eng. Rept.*, 1906, pt. 1. Appendix L 10, pp. 1137-1138.)
1916. — Improvement of Roanoke river, North Carolina.
(*In Chief of Eng. Rept.*, 1903, pt. 2. Appendix M 11, pp. 1086-1088.)
— — (*In Chief of Eng. Rept.*, 1905, pt. 1. Appendix L 12, pp. 1199-1200.)
— — (*In Chief of Eng. Rept.*, 1906, pt. 1. Appendix L 12, pp. 1139-1140.)
Reports of progress.
1917. — Improvement of Scuppernong river, North Carolina.
(*In Chief of Eng. Rept.*, 1903, pt. 2. Appendix N 1, pp. 1091-1092.)
1918. — Improvement of waterway from Norfolk, Virginia, to the sounds of North Carolina.
(*In Chief of Eng. Rept.*, 1903, pt. 2. Appendix M 8, pp. 1083-1084.)
— — (*In Chief of Eng. Rept.*, 1904, pt. 2. Appendix L 8, pp. 1374-1376.)
— — (*In Chief of Eng. Rept.*, 1905, pt. 1. Appendix L 8, pp. 1195-1196.)
Reports of progress.
— Preliminary examination of Carrot Island slough and Lewis Thoroughfare, North Carolina.
See Lucas and Winslow, No. 1123.
1919. — Preliminary examination of Perquimans river, North Carolina, at and near Hertford.
(*In Chief of Eng. Rept.*, 1904, pt. 2. Appendix L 13, pp. 1380-1386.)
— — U. S. 58th Cong., 2d Sess., 1903. House Doc. No. 302. 7 pp. Map.
1920. — Report of a Board of Engineers on preliminary examination and survey for waterway from Norfolk, Virginia, to Beaufort, North Carolina.
(*In Chief of Eng. Rept.*, 1904, pt. 2. Appendix L 14, pp. 1387-1469.)
— — U. S. 58th Cong., 2d Sess., 1903. House Doc. No. 563. 84 pp. Map.
1921. WINSLOW, FRANCIS.
Sounds and estuaries of North Carolina with reference to oyster culture.
N. C. Gen. Assem., Sess. 1887. Doc. No. 7. 151 pp. 23 cm.

- ——— U. S. Coast & Geod. Survey, 1889, Bull. 10. 136 pp. 30 cm.
Map.

Descriptions of the sounds and inlets, and account of examinations and hydrographic surveys made of them in reference to oyster culture, with character of the beds of the sounds and rivers.

1922. WINTER, F.

Report on the Guilford county iron mines in North Carolina. Phila., 1868. 7 pp. 23 cm.

Describes the property, mining operations and ores, and gives ore analysis by F. A. Genth.

1923. ——— Report on the High Shoals property in Gaston county, North Carolina. n. p. [1873?] 15 pp. 23 cm.

Geological description of this property located in Gaston county, the veins, ores and mining operations.

1924. WINTERBOTHAM, W.

State of North Carolina, situation, extent and boundaries.

(*In his* Historical, geographical, commercial and philosophical view of the American United States . . . v. 3. London, 1795. 21 cm. pp. 192-224.)

Contains notes on climate, soil and productions.

WOLF, T. R.

Memoir of Frederick Augustus Genth.

See Wahl, Keller and Wolf, No. 1817.

1925. WOOD, E. P.

Cabarrus mine, North Carolina.

Min. Mag., Ser. I, v. 3 (1854): 82-83.

Brief notes on development and operation of the mine.

1926. WOODBRIDGE, W. C.

Description des monts Apalaches.

Soc. de Géog., Bull., Ser. II, v. 16 (1841): 25-39.

Describes the Appalachian mountains with general allusions to the Bald, Unaka and Smoky mountains, and notes on the rock formations.

1927. WOODHOUSE, JAMES.

Additional observations on the subterranean minerals near the Yadkin in North Carolina.

Med. Repos., v. 7 (1804): 26-27.

1928. ——— Remarks on a letter of Rev. Zechariah Lewis relating to a subterranean wall discovered in North Carolina.

Med. Repos., v. 5 (1802): 21-24.

1929. WOODWORTH, J[AY] B[ACKUS].

The Atlantic coast triassic coal field [in North Carolina].

(In U. S. Geol. Survey, 22d Ann. Rept., pt. 3. Wash., 1902. pp. 31; 43-53.)

Describes the two coal-bearing triassic areas, the Deep and Dan River areas, gives a table of analyses of the coal from the Deep River area with statistics of production, and analyses of the coal of the Dan River area by Genth and J. E. Whitfield.

1930. WOOLMAN, LEWIS.

Fossil mollusks and diatoms from the Dismal Swamp, Virginia and North Carolina: indication of the geological age of the deposit. With notes on the diatoms by Charles Boyer.

Acad. Nat. Sci. Phila., Proc., [v. 50] (1898): 414-428.

Contains lists and tables of the fossils together with descriptions.

1931. WORTH, JONATHAN.

Resources of North Carolina. Raleigh, 1866. 7 pp. 19½ cm.

Notes on resources of state including soil, climate, minerals and agricultural productions.

1932. WRIGHT, H. G.

[River and harbor improvement in North Carolina.]

(In Chief of Eng. Rept., 1879, pt. 1. Wash., 1879. pp. 87-88; 90-95.)

—— — (In Chief of Eng. Rept., 1880, pt. 1. Wash., 1880. pp. 109-110; 116-117; 120-124.)

—— — (In Chief of Eng. Rept., 1881, pt. 1. Wash., 1881. pp. 148-149; 157-158; 160-166.)

—— — (In Chief of Eng. Rept., 1882, pt. 1. Wash., 1882. pp. 152-161.)

—— — (In Chief of Eng. Rept., 1883, pt. 1. Wash., 1883. pp. 163-169.)

—— — (In Chief of Eng. Rept., 1884, pt. 1. Wash., 1884. pp. 161-163; 166-174.)

Yearly reports of improvement.

1933. WURTZ, HENRY.

On the occurrence of cobalt and nickel in Gaston county, North Carolina.

Am. Assoc. Adv. Sci., Proc., 12th meet. (1858): 221-227.

—— — Am. Jour. Sci., Ser. II, v. 27 (1859): 24-31.

Describes occurrence of cobalt and nickel in Gaston and Lincoln counties.

1934. ZEIGLER, WILBER G. and GROSSCUP, BEN S.

The heart of the Alleghanies or western North Carolina; comprising its topography, history, resources, people, narratives, incidents and pictures, travel, adventures in hunting and fishing, and legends of its wilderness. Raleigh, Alfred Williams & Co., 1883. 374 pp. 21 cm. Illus. Map.

1935. Zircon from North Carolina.

Am. Jour. Sci., Ser. III, v. 36 (1888): 73.

Notes on production of zircon from the Green River mines, Henderson county.

PERIODICALS CONSULTED IN PREPARING BIBLIOGRAPHY.

There is given below a list of the periodicals that have been consulted in the preparation of this Bibliography, and also the abbreviations that are used in referring to them. Those periodicals complete files of which have not been available are preceded by an asterisk (*).

- Acad. des Sci., Comp. Rend. Comptes Rendus de l'Academie des Sciences. (Paris.)
- Acad. Nat. Sci. Phila., Jour. Journal of the Academy of Natural Sciences, Philadelphia.
- Proc. Proceedings of the Academy of Natural Sciences, Philadelphia.
- *K. Akad. d. Wiss. Denks. Math.-Naturwiss. Klasse. Denkschriften der K. Akademie der Wissenschaften. Mathematische-Naturwissenschaftliche Klasse. (Vienna.)
- Monatsberichte. Monatsberichte der K. Akademie der Wissenschaften. (Vienna.)
- Sitz. Sitzungsberichte der K. Akademie der Wissenschaften. (Vienna.)
- Am. Acad. Arts & Sci., Proc. Proceedings of the American Academy of Arts and Sciences. (Boston.)
- Am. Assoc. Adv. Sci., Proc. Proceedings of the American Association for the Advancement of Science.
- Am. Chem. Jour. American Chemical Journal. (Baltimore.)
- *Am. Chem. Research, Rev. Review of American Chemical Research. (New York.)
- Am. Chem. Soc., Jour. Journal of the American Chemical Society. (New York.)
- *Am. Climat. Assoc., Trans. Transactions of the American Climatological Association. (Philadelphia.)
- Am. Geog. & Stat. Soc., Jour. Journal of the American Geographical and Statistical Society. (New York.)
- Am. Geog. Soc., Bull. Bulletin of the American Geographical Society. (New York.)
- Am. Geol. American Geologist. (Minneapolis.)
- *Am. Inst., Trans. Transactions of the American Institute. (New York.)
- *Am. Inst. Elec. Eng., Proc. Proceedings of the American Institute of Electrical Engineers. (New York.)
- Am. Inst. Min. Eng., Bi-month. Bull. Bi-monthly Bulletin of the American Institute of Mining Engineers. (New York.)
- Trans. Transactions of the American Institute of Mining Engineers. (New York.)
- Am. Jour. Conch. American Journal of Conchology. (Philadelphia.)
- *Am. Jour. Mining. American Journal of Mining. (Eng. & Min. Jour.)
- Am. Jour. Sci. American Journal of Science. (New Haven.)
- *Am. Mag. American Magazine. (Boston.)
- Am. Meteor. Jour. American Meteorological Journal. (Boston.)

- Am. Mineral. Jour. American Mineralogical Journal. (New York.)
 Am. Nat. American Naturalist. (Boston.)
 Am. Peat Soc., Jour. Journal of the American Peat Society. (Washington.)
 Am. Phil. Soc., Proc. Proceedings of the American Philosophical Society.
 (Philadelphia.)
 ——— Trans. Transactions of the American Philosophical Society. (Philadelphia.)
 Annal. de Chimie. Annales de Chimie et de Physique. (Paris.)
 Ann. d. K. K. Naturhist. Hofmus. Annalen des K. K. Naturhistorischen
 Hofmuseums. (Vienna.)
 Ann. d. Phys. u. Chem. Annalen der Physik und Chemie. (Leipzig.)
 Annales des Sci. Géol. Annales des Sciences Géologiques. (Paris.)
 Ann. des Sci. Nat. Annales des Science Naturelles. (Paris.)
 Annuaire de Chimie. (Paris.)
 Ann. Sci. Discovery. Annual of Scientific Discovery. (Boston.)
 Ann. Record Sci. & Indust. Annual Record of Science and Industry. (New
 York.)
 Appalachia. (Boston.)
 Appleton's Jour. Appleton's Journal. (New York.)
 Archives des Sci. Phys. et Nat. Archives des Sciences Physiques et Naturel-
 les. (Geneva.)
 Assoc. Am. Geol., Rept. Report of the Association of American Geologists
 and Naturalists.

 Bost. Jour. Nat. Hist. Boston Journal of Natural History.
 *Bost. Jour. Phil. & Arts. Boston Journal of Philosophy and Arts.
 Bost. Soc. Nat. Hist., Proc. Proceedings of the Boston Society of Natural
 History.
 Brit. Assoc. Adv. Sci., Rept. Report of the British Association for the
 Advancement of Science.
 Bull. des Sci. Nat. et de Géol. Bulletin des Sciences Naturelles et de Géol-
 ogie. (Paris.)

 Can. Min. Inst., Jour. Journal of the Canadian Mining Institute. (Ottawa.)
 Can. Nat. Canadian Naturalist. (Montreal.)
 Chem. News. Chemical News. (London.)
 Chem. Soc. (London) Jour. Journal of the Chemical Society of London.
 Chief of Eng. Rept. (U. S. War Dept. Report of the Chief of Engineers.)
 Cin. Soc. Nat. Hist., Jour. Journal of the Cincinnati Society of Natural
 History.
 Col. School of Mines, Bull. Bulletin of the Colorado School of Mines.
 (Golden, Col.)
 Col. Sci. Soc., Proc. Proceedings of the Colorado Scientific Society. (Den-
 ver.)
 *Congrès géologique internat., Comp. Rend. des Sessions.

 De Bow's Review. (New Orleans.)
 Den. Univ., Sci. Lab., Bull. Bulletin of the Scientific Laboratory of Denison
 University. (Granville, Ohio.)
 Dublin Phil. Jour. Dublin Philosophical Journal.

- **Eclect. Repertory.* Eclectic Repertory. (Philadelphia.)
Econ. Geol. Economic Geology. (New Haven.)
Edin. Jour. Sci. Edinburgh Journal of Science.
Edin. Phil. Jour. Journal of the Edinburgh Philosophical Society.
Elis. Mit. Sci. Soc., Jour. Journal of the Elisha Mitchell Scientific Society.
 (Chapel Hill, N. C.)
Engineering. (New York.)
Eng. & Min. Jour. Engineering and Mining Journal. (New York.)
 **Eng. Assoc. South, Proc.* Proceedings of the Engineering Association of the South. (Nashville, Tenn.)
 *—— *Trans.* Transactions of the Engineering Association of the South. (Nashville, Tenn.)
Eng. Mag. Engineering Magazine. (New York.)
Essex Inst., Bull. Bulletin of the Essex Institute. (Salem, Mass.)
- Field Columbian Museum, Publications, Geological Series.* (Chicago.)
 **Forestry and Irrigation.*
Frank. Inst., Jour. Journal of the Franklin Institute. (Philadelphia.)
- Geog. Soc. Phila., Bull.* Bulletin of the Geographical Society of Philadelphia.
Geographisches Jahrbuch. (Gotha.)
Geol. Mag. Geological Magazine. (London.)
Geol. Record. Geological Record. (London.)
Geol. Soc. Amer., Bull. Bulletin of the Geological Society of America. (Rochester, N. Y.)
Geol. Soc. London, Proc. Proceedings and Journal of the Geological Society of London.
Geol. Soc. Penn., Trans. Transactions of the Geological Society of Pennsylvania. (Philadelphia.)
K. K. Geol. Reichsanstalt., Jahr. Jahrbuch des K. K. Geologischen Reichsanstalt. (Vienna.)
 —— *Verh.* Verhandlungen des K. K. Geologischen Reichsanstalt. (Vienna.)
Geol. Centralblatt. Geologisches Centralblatt. (Leipzig.)
 **Gött. Gel. Anz.* Göttingische gelehrte Anzeigen. (Göttingen.)
Goldthwaite's Geog. Mag. Goldthwaite's Geographical Magazine. (New York.)
- Harper's Mag.* Harper's Magazine. (New York.)
- L'Institut.* Journal des Academies et Sociétés Scientifiques de la France. (Paris.)
- Jahresber. d. Chem.* Jahresbericht über die Fortschritte der Chemie. (Giessen.)
Johns Hopkins Univ. Circ. Johns Hopkins University Circulars. (Baltimore.)
Jour. de Physique. Journal de Physique. (Paris.)

Jour. f. prakt. Chemie. Journal für praktische Chemie. (Leipzig.)

Jour. of Geol. Journal of Geology. (Chicago.)

Jour. of School Geography. (Lancaster, Pa.)

Land we love. (Charlotte, N. C.)

Leonhard's Zts. f. Min. Leonhard's Zeitschrift für Mineralogie. (Frankfort.)

Liverpool Geol. Assoc., Trans. Transactions of the Liverpool Geological Association.

London Mag. London Magazine.

*Medical Record. (New York.)

Med. Repos. Medical Repository. (New York.)

*Merchant's Mag. Merchant's Magazine. (New York.)

Mineral Collector. (New York.)

Mineral Industry. (New York.)

Min. Mag. & Jour. Min. Soc. London. Mineralogical Magazine and Journal of the Mineralogical Society of London.

Mining & Metallurgy. (New York.)

Min. & Stat. Mag. Mining and Statistic Magazine. (New York.)

Min. Mag. Mining Magazine. (New York.)

Mining Reporter. (Denver.)

Mining World. (Chicago.)

Mus. Comp. Zoöl. Harv'd, Mem. Memoirs of the Museum of Comparative Zoölogy, Harvard College. (Cambridge, Mass.)

Nat. Geog. Mag. National Geographic Magazine. (Washington.)

Nat. Geog. Monograph. National Geographic Monographs. (Washington.)

Nat. Inst. Prom. Sci., Bull. Bulletin of the National Institute for the Promotion of Science. (Washington.)

Nat. Acad. Sci., Biog. Mem. Biographical Memoirs of the National Academy of Science. (Washington.)

Nature. (London.)

Naturh. Ver. d. preuss. Rhein. Westf., Verh. Verhandlungen des Naturhistorischen Vereins der preussischen Rheinlande und Westfalens. (Bonn.)

Naturwiss. Ver. f. Neuvorpommern u. Rügen in Greifswald, Mitth. Mittheilungen aus dem Naturwissenschaftlichen Vereine für Neuvorpommern und Rügen in Greifswald. (Greifswald.)

Nautilus, The. (Philadelphia.)

Neues Jahr. f. Min. Neues Jahrbuch für Mineralogie, Geologie und Paläontologie. (Stuttgart.)

N. Y. Acad. Sci., Annals. Annals of the New York Academy of Science.

—— Trans. Transactions of the New York Academy of Science.

N. Y. Lit. & Phil. Soc., Trans. Transactions of the New York Literary and Philosophical Society.

N. Y. Lyc. Nat. Hist., Annals. Annals of the New York Lyceum of Natural History.

Niederr. Ges. f. Natur-u. Heilk., Sitz. Sitzungsberichte der Niederrheinischen Gesellschaft für Natur-und Heilkunde. (Bonn.)

- Niles' Register. (Baltimore.)
 North Amer. Review. North American Review. (New York.)
 N. C. Agric. Exp. Station, Rept. Report of the North Carolina Agricultural Experiment Station. (Raleigh.)
 ——— Bull. Bulletin of the North Carolina Agricultural Experiment Station. (Raleigh.)
 *N. C. Board of Health, Bull. Bulletin of the North Carolina Board of Health. (Raleigh.)
 N. C. Board of Internal Improvement. Reports. (Raleigh.)
 North Carolina Booklet. (Raleigh.)
 *N. C. Bureau of Labor & Printing, Rept. (Raleigh.)
 *N. C. Bureau of Labor Statistics, Rept. (Raleigh.)
 N. C. Department of Agriculture, Monthly Bulletins. (Raleigh.)
 N. C. Geol. Survey, Biennial Reports. (Raleigh.)
 ——— ——— Volumes. (Raleigh.)
 ——— ——— Bulletins. (Raleigh.)
 ——— ——— Economic Papers. (Raleigh.)
 N. C. University Magazine. (Chapel Hill, N. C.)
- *Ohio Mechanics' Inst., Sci. Proc. Scientific Proceedings of the Ohio Mechanics' Institute.
 Our living and our dead.
 Overland Monthly. (San Francisco.)
- Petermann's Mitt. Petermann's Mittheilungen aus Justus Perthes' geographischer Anstalt. (Gotha.)
 Phila. Geog. Soc., Bull. Bulletin of the Philadelphia Geographical Society.
 *Phila. Numismatic & Antiquarian Soc., Proc.
 Phil. Mag. London, Edinburgh and Dublin Philosophical Magazine. (London.)
 Phil. Soc. Wash., Bull. Bulletin of the Philosophical Society of Washington.
 *Popular Science. (New York.)
 Pop. Sci. Month. Popular Science Monthly. (New York.)
 K. preuss. Akad. d. Wiss., Monatsber. Monatsberichte der K. preussischen Akademie der Wissenschaften, zu Berlin.
 ——— Sitz. Sitzungsberichte der K. preussischen Akademie der Wissenschaften, zu Berlin.
- Quart. Jour. Agric. & Sci. Quarterly Journal of Agriculture and Science. (Albany, N. Y.)
 Quart. Jour. Sci. Quarterly Journal of Science. (London.)
- Répertoire de Chimie. (Paris.)
 Revue de Géol. Revue de Géologie. (Paris.)
 Roy. Inst. Great Britain, Proc. Proceedings of the Royal Institution of Great Britain. (London.)
 Roy. Soc. Can., Trans. Transactions of the Royal Society of Canada. (Montreal.)
 Rural Carolinian.

- St. Louis Acad. Sci., Trans. Transactions of the St. Louis Academy of Science.
- Sanatarian. (New York.)
- Sch. of Mines Quart. School of Mines Quarterly. (New York.)
- Science. (New York.)
- Science News. (Salem, Mass.)
- Science Observer. (Boston.)
- Sci. Amer. Suppl. Scientific American Supplement. (New York.)
- Scribner's Monthly. (New York.)
- Smithsonian Inst., Bd. of Reg. Rept. Report of the Board of Regents of the Smithsonian Institution. (Washington.)
- Misc. Coll. Miscellaneous Collections of the Smithsonian Institution. (Washington.)
- Société de Chimique, Bull. Bulletin de la Société de Chimique.
- Société de Géographie, Bull. Bulletin de la Société de Géographie. (Paris.)
- Soc. Géol. de France, Bull. Bulletin de la Société géologique de France. (Paris.)
- Soc. Min. de France, Bull. Bulletin de la Société française de Minéralogie. (Paris.)
- *South. Agric. & Register of Rural Affairs. Southern Agriculturist and Register of Rural Affairs.
- Southern Guide.
- Southern Hist. Assoc., Pub. Publications of the Southern History Association. (Washington.)
- Southern Jour. Med. & Pharm. Southern Journal of Medicine and Pharmacy. (Nashville & Knoxville, Tenn.)
- Southern Pictures and Pencilings.
- *Southern States.
- The Southland. (Asheville, N. C.)
- Stone. (New York.)
- Taschenbuch f. d. Min. Taschenbuch für die gesammte Mineralogie. (Leonhard.) (Frankfort.)
- Tech. Quart. Technology Quarterly. (Boston.)
- Texas Acad. Sci., Proc. Proceedings of the Texas Academy of Science. (Austin, Tex.)
- Torrey Botan. Club, Bull. Bulletin of the Torrey Botanical Club. (Lancaster, Pa.)
- Torreya. (Lancaster, Pa.)
- *Trinity Archives. (Durham, N. C.)
- U. S. Census, 10th, 11th, 12th Reports.
- U. S. Coast & Geod. Survey Reports.
- *U. S. Congressional Documents.
- U. S. Dept. of Agric. Rept. of Commissioner.
- Bureau of Forestry, Bull.
- Field Operations, Bureau of Soils, Repts.

U. S. Geol. Survey, Ann. Repts.

——— Bulletins.

——— Geol. Atlas, Folios.

——— Min. Res.

——— Monographs.

——— Prof. Papers.

——— Water-supply & Irrig. Papers.

U. S. Mint, Prod. of the precious metals, Repts.

U. S. National Museum, Bull.

——— Proc.

——— Repts.

Virginias, The. (Staunton, Va.)

Wagner Free Inst. Sci., Trans. Transactions of the Wagner Free Institute of Science. (Philadelphia.)

Wash. Acad. Sci., Proc. Proceedings of the Washington Academy of Sciences.

Wis. Acad. Sci., Arts and Letters. Transactions of the Wisconsin Academy of Science, Arts and Letters. (Madison.)

Zts. d. deutsch Geol. Gesell. Zeitschrift der deutschen Geologischen Gesellschaft. (Berlin.)

Zts. f. d. Gesam. Naturwiss. Zeitschrift für die gesammten Naturwissenschaften. (Halle.)

Zts f. Kryst. u. Min. Zeitschrift für Krystallographie und Mineralogie. (Leipzig.)

Zts. f. prakt. Geol. Zeitschrift für praktische Geologie. (Berlin.)

PART II

LIST OF MAPS OF NORTH CAROLINA

BY
FRANCIS BAKER LANEY AND KATHARINE HILL WOOD

INTRODUCTION.

The maps are arranged chronologically. All published maps are placed under date of publication. Maps published more than once are placed under date of first publication, with the exception of the U. S. Geol. Survey Topographic maps which are placed under latest date of publication. Manuscript maps are placed under date of preparation. A number of maps are without known date and are placed at the end of the list. Under each year the maps have been grouped as follows: General maps; North Carolina Geological Survey maps; United States Coast and Geodetic Survey maps; United States Department of Agriculture maps; United States Geological Survey maps; United States War Department maps (office of Chief of Engineers).

Maps in general atlases and geographies have, with a few exceptions, been excluded. It is believed that a few maps may have originally appeared in atlases, but it has been impossible to definitely ascertain their origin and in such cases they have been included.

In all cases when there has been any question as to whether a map properly belongs in this list, it has been included.

The place where a map may be found is given in many cases, and following is a list of abbreviations for these places:

U. S. C. & G. S.	U. S. Coast & Geodetic Survey.
U. S. G. S.	U. S. Geological Survey.
U. S. W. D.	U. S. War Department (office of Chief of Engineers).
L. C.	Library of Congress.
N. C. G. S.	North Carolina Geological and Economic Survey.
U. N. C. L.	University of North Carolina Library.
S. B. W.	Library of Stephen B. Weeks, of Trinity and Greensboro, North Carolina.
Off. of Sec. of State, N. C.	Office of Secretary of State, North Carolina.
N. C. S. L.	North Carolina State Library.

No township or city maps are given in this list but all county maps, as far as it has been possible to obtain records of same, are included.

While every endeavor has been made to make this list of maps as complete as possible, yet, it is probable that some maps have been omitted that should be included. The list includes state and county, geological, topographical, coast and geodetic survey, war department, postal, road, railroad, and agricultural maps.

JOSEPH HYDE PRATT,
State Geologist.

PART II

LIST OF MAPS OF NORTH CAROLINA

BY
FRANCIS BAKER LANEY AND KATHARINE HILL WOOD

1. 1590. *Americae pars, Nunc Virginia dicta, primum ab Anglis inuenta sumtibus Dn. Walteri Raleigh, equestris ordinis viri Anno Dñi. MDLXXXV. Autore Joanne With, Sculptore Theodore de Bry, qui et excud.* 11½ x 15¾ in. Scalle of 25 leages.

(*In* Harriott, Thomas. *Admiranda narratio fida tamen, de commodis et incolarum ritibus Virginiae. . . Francoforti ad Moenum, 1590.* Fold.)

—— (*Fac-simile in* Hawks, F. L. *History of North Carolina. Fayetteville, N. C. 1857. Vol. 1.* Fold. facing p. 141.)

—— (*Fac-simile in* Connor, R. D. W. *Beginnings of English America. . . Raleigh, N. C. 1907.* Fold. Front.)

—— (*Fac-simile in* Hamilton, P. J. *History of North America. Vol. 3. The colonization of the South. Phila., 1904.* Facing p. 49.)

—— (*Reproduction in* Burrage, H. S. *Early English and French voyages. . . New York, 1906.* Fold. facing p. 248.)

—— (*Reproduction in* Winsor, Justin. *Narrative and Critical History of America. Vol. 3.* Facing p. 124.)

—— (*Reproduction in* Ashe, Samuel A. *History of North Carolina. Greensboro, 1908. Vol. 1.* Bet. pp. 2 and 3.)

Note: This is the first map known of what is now North Carolina. The original drawing by John White is in the British Museum.

2. 1590. *Anglorum in Virginiam aduentuo. (Arrival of the Englishmen in Virginia.)* 6 x 9 in.

(*In* Harriott, Thomas. *Admiranda narratio fida tamen, de commodis et incolarum ritibus Virginiae. . . Francoforti ad Moenum, 1590.*)

—— (*Fac-simile in* Wheeler, J. H. *Historical sketches of North Carolina. . . Phila., Lippincott, 1851.* Front.)

—— (*Fac-simile in* Connor, R. D. W. *Beginnings of English America. . . Raleigh, N. C., 1907.* Facing p. 10.)

- (Fac-simile in Hamilton, P. J. History of North America. Vol. 3. The colonization of the South. Phila., 1904. Facing p. 81.)
Note: This author states that the original of this map is in the Lenox Library, New York.
- (Fac-simile in Peele, W. J. The first English settlement in America. North Carolina Booklet, v. 4 (1904): 16-17.)
3. 1612. Ould Virginia. Graven and extracted out of ye generall history of Virginia, New England and Somer Isles by Robert Vaughan. $4\frac{3}{4}$ x 6 in. A scale of 10 leagues.
 (In Smith, John. General History of Virginia, New England and the Summer Isles. The second book, 1624. Fold.)
Note: Shows North Carolina Coast between Cape Henry and Cape Fear.
4. 1650. "Ould Virginia, 1584. New Virginia, 1606. Now Carolina, 1650." 7 x $10\frac{1}{4}$ in.
 (U. S. G. S.)
Note: Pen and ink sketch showing Atlantic coast from Cape Cod southward to about Cape Fear, perhaps copied from one of Smith's maps.
5. 1651. "Ould Virginia." A mapp of Virginia discovered to ye falls and in its Latt: From 35 deg.: & $\frac{1}{2}$ neer Florida to 41 deg.: Bounds of New England. Domina Virginia Farrer, Collegit. John Goddard, Sculp. 10 x 13 in. Scale: 3 in. = 100 miles. (Photographic reproduction.)
 (U. S. G. S.)
- (Fac-simile in Winsor, Justin. Narrative and Crit. Hist. of America. Vol. 3. Facing p. 465.)
Note: This map appeared in ed. 3 of Edward Williams' "Virginia in America richly valued," London, 1651, and is very rare. The map seen is a photographic reproduction. There are two plates (impressions), one containing portrait of Sir Francis Drake, with inscription, Domina Virginia Farrer, Collegit; the other without the portrait and inscribed, John Farrer, Collegit. At left hand corner of the map is printed, "The sea of China and the Indies." Shows Carolina coast from Cape Henry to Cape Fear.
6. 1657. The south part of Virginia, now the north part of Carolina. Nicholas Comberford, 1657. $12\frac{1}{4}$ x $16\frac{1}{2}$ in. Scale: 4 in. = 20 English leagues. (Photographic reproduction.)
 (U. S. G. S.)
7. 1662. Discovery made by William Hilton of Charlestowne In New England Marriner from Cape Hatterask Lat: 35: 30' to ye west of Cape Roman in Lat: 32° 30', In ye yeare 1662 And layd Down in the forme as you see by Nicholas Shapley of the towne aforesaid November 1662. $6\frac{1}{4}$ x $7\frac{1}{2}$ in.
 — (In Mass. Hist. Soc., Proc., v. 22 (1883). Facing p. 402.)
Note: This map is reproduced from the original in the British Museum and is reduced to about one-half the original size. The map is referred to in Winsor, Justin. Narrative & Crit. Hist. of America, v. 5, p. 337; and in Mag. Amer. Hist. v. 1 (1887): 55.

8. 1666. Carolina described. A map of the Carolina coast accompanying "A Brief Description of the province of Carolina." London, 1666. 6 x 8 in.
 — (Fac-simile in Hawks, F. L. History of North Carolina, Fayetteville, 1858. Vol. 2. Fold. facing p. 42.)
 — (In Bryant & Gay. Pop. Hist. of the U. S., 1878. Vol. 2, p. 285.)

9. 1671. A new description of Carolina. By order of the lords proprietors. James Moxon, Sculp. London, 1671. $16\frac{1}{4} \times 21\frac{1}{2}$ in.
 — (In Ogilby, John. America, being the latest . . . description of the new world. London, 1671. Fold. p. 205.)
 — (Fac-simile in Hawks, F. L. History of North Carolina. Fayetteville, 1858. Vol. 2. Facing p. 53.)
 Note: A tracing of this map from a copy of the original map was made in the U. S. Coast Survey at Washington, by Jno. Campbell in 1857.

10. 1671. Virginiae partis australis, et Floridae partis orientalis, intema centiumq₃ regionum Nova Descriptio. 11 x $13\frac{1}{2}$ in.
 (In Montanus, Arnoldus. De Nieuwe en Onbekende weereld . . . Amsterdam, Jacob Meurs, 1671. pp. 142-143.)
 Note: Also published in 1673 in a German edition of this work. Shows coast in vicinity of Cape Fear.

11. 1672. A general mapp of Carolina, describing its seacoast and rivers. London, printed for Ric. Blome. $4\frac{3}{4} \times 4\frac{1}{8}$ in.
 (In Blome, Richard. Description of the Island of Jamaica with the other isles and territories in America. . . London, 1672. Fold. facing p. 125.)
 (L. C.)

12. 1672. A map of the whole territory traversed by John Lederer in his three marches. $6\frac{1}{4} \times 8$ in. Scale: $1\frac{1}{2}$ in.=20 leagues. Cross, Sculpit.
 (In The discoveries of John Lederer in three several marches from Virginia to the west of Carolina. . . London. Printed by J. C. for Samuel Heyrick, 1672. Fold. Front.)
 — (In Reprint of the above: Charleston, S. C. Walker, Evans & Cogswell Co., 1891. Facing p. 44.)
 — (Fac-simile in Hawks, F. L. History of North Carolina. Fayetteville, 1858. Vol. 2. Drawn by George Schroeter. Fold. facing p. 52.)
 — (Fac-simile in Winsor, Justin. Narrative and critical History of America. Vol. 5. Facing p. 338.)

13. 1672. A new description of Carolina, by order of the lords proprietors, 1672. $19\frac{1}{2} \times 20\frac{1}{2}$ in. Scale: $2\frac{1}{2}$ in.=60 Eng. miles.

— (In *Charleston Year Book*, 1886. Fold. facing p. 248.)

Note: "A Fac-simile of the earliest map of Carolina after the settlement of Charlestown, showing its first location on the west bank of the Ashley . . . copied . . . from an original map in the collection of Thos. Addis Emmet, M. D., for Mayor Courtenay, Charleston, 1887." This map is evidently taken from Ogilby's "America." Has inset of Ashley and Cooper rivers.

14. 1676. A new description of Carolina: sold by Thos. Bassett in Fleetstreet, and Ric. Chiswell in St. Paul's churchyard. $14\frac{1}{4} \times 19\frac{3}{4}$ in. Scale: $2\frac{1}{2}$ in.=60 Eng. miles.

(In *Speed, John. The theatre of the Empire of Gr. Britain*, new ed., London, T. Bassett, 1676, pp. 49-50.)

(*L. C.*)

15. 1680. A new map of Carolina. By John Thornton and by Will: Fisher, London, [1680]. 16×20 in. Scale of English leagues: $3\frac{1}{2}$ in.=20 miles.

Inset: Ashley and Cooper rivers.

(*L. C.*)

16. 1682. A new description of Carolina. By order of the lords proprietors. James Moxon, Sculp. $18\frac{1}{2} \times 22\frac{3}{4}$ in. Scale: $2\frac{3}{4}$ in.=20 English leagues.

Inset: "A perticular map of the going into Ashley and Cooper river."

(In *Wilson, Siamuel. An account of the province of Carolina*. London. Printed by G. Larkin for Francis Smith, 1682. Fold. Front.)

Note: This is the same map as in Ogilby's "America," 1671, and was originally made for that work.

17. 1685. Carte general de la Carolina Dresse Sur les Memoires le plus Nouveaux par le Sieue S . . . a Amsterdam chez Pierre Mortier. (Avec privilege de nos Seigneurs les Etats.) $17\frac{3}{4} \times 21\frac{3}{4}$ in.

Inset: Ashley and Cooper rivers.

(*L. C.*)

Note: This map also appeared in 1690 and 1700, and is apparently the same as the Willdey map, 1685.

18. [1685?] A new map of Carolina. By John Thornton, Robert Mornden and Philip Lea. $17\frac{3}{4} \times 21\frac{3}{4}$ in. Scale: 3 in.=60 miles. [London, 1685?]

Inset: "A perticular map for the going into Ashley and Cooper river."

(*L. C.*)

19. 1685. A new map of Carolina. Sold by George Willdey at the Great Toy . . . London, 1685. $17\frac{3}{4} \times 21\frac{3}{4}$ in. Scale: 3 in.=60 English miles.
Inset: "A perticular map for the going into Ashley and Cooper river."
(L. C.)
Note: This map is same as Wilson, 1682.
20. 1687. A new map of Carolina. $4 \times 4\frac{3}{4}$ in.
(In Blome, Richard. The present state of his Majestie's isles and territories in America. . . London, 1687. Fold. facing p. 150.)
—— (Reproduced in Winsor, Justin. Narrative and Critical History of America. Vol. 5, p. 341.)
—— (Fac-simile in Hamilton, P. J. History of North America. Vol. 3. The colonization of the south. Phila., 1904. Facing p. 336.)
Hamilton states that the original of this map is in the Lenox Library, New York.
Note: Shows coast from Delaware bay to Bay St. Matheo.
21. 1695. A new map of Carolina, by Philip Lea at the Atlas and Hercules, in Cheapside, London. $14\frac{1}{4} \times 17$ in. Scale: $2\frac{1}{2}$ in.=60 Eng. miles.
—— (Fac-simile in Charleston Year-book, 1883. Fold. facing p. 377.)
—— (Reproduced in Ashe, Samuel A. History of North Carolina. Greensboro, N. C., 1908. Vol. 1. Facing p. 145.)
Note: This map is copied from an original map in the library of Mr. Courtenay, Charleston, S. C.
22. 1708. Carolina, by Herman Moll, geographer. "Note that ye plantations are marked thus . . ." $5\frac{3}{4} \times 6\frac{1}{2}$ in. Scale: $2\frac{3}{4}$ in.=120 English miles.
(In Oldmixon, John. British Empire in America. . . London, 1708. Vol. 1. Fold. facing p. 325.)
Note: Also appeared in a Dutch translation of this work: Het Britannische ryk in Amerika . . . Amsterdam, R. & G. Wetstein 1721. Vol. 2. Fold. facing p. 248.
23. 1709. Fac-simile of a map of the inhabited parts of North Carolina, prepared by Ion Lawson, Surveyor-General of North Carolina, 1709. Drawn by George Schroeter. $5 \times 6\frac{3}{4}$ in. Scale: $2\frac{3}{4}$ in.=60 British miles.
(In Hawks, F. L. History of North Carolina. Fayetteville, 1858. Vol. 2. Fold. facing p. 104.)
—— (In Ashe, Samuel A. History of North Carolina. Greensboro, 1908. Vol. 1. Facing p. 169.)
24. 1709. To his Excellency, William, Lord Craven . . . lords proprietors of Carolina in America this map is humbly dedicated by Ion Lawson, 1709. $10\frac{1}{2} \times 12\frac{3}{4}$ in.
—— (In Lawson, John. A new voyage to Carolina. . . London, 1709. Fold. Front.)

- (In Lawson, John. History of North Carolina. London, 1714. Fold. Front.)
25. 1710. Anlage der Stadt Neu-Bern 1710. Nach einem Plane der Bibliothek von Mülinen. $13\frac{1}{2} \times 17$ in.
(In Neujahrsblatt herausgegeben vom Historischen Verein des Kantons Bern für 1897. Bern, K. J. Wyss, 1896.)
(S. B. W.)
26. 1722. A new map of the most considerable plantations of the English in America dedicated to his Highness, William, Duke of Gloucester. London, 1722. 13×18 in.
Inset: "Carolina." $4\frac{3}{4} \times 4\frac{3}{4}$ in.
(L. C.)
27. 1725. Virginia, Marylandia et Carolina in America Septentrionali Britannorum industria excultae repraesentatae a Joh. Bapt. Homann. S. C. M. Geog. Norimbergae. $18\frac{1}{2} \times 22\frac{1}{4}$ in. Scale: $2\frac{3}{4}$ in. = 20 German miles.
(S. B. W.)
28. 1728. [Boundary line between North Carolina and Virginia,] Tracing in possession of U. S. Coast and Geod. Survey, Washington, D. C. $6\frac{1}{4} \times 30\frac{3}{4}$ in.
Note: "This is a plan of a line between Va. & Nth Carolina, which was run in the year 1728 in the spring and fall, from the sea to Peter's creek, by the Hon. W. Byrd, W. Daudridge and Rich. Fitzwilliams & Mr. W. Mayo, surveyors, and from Peter's creek was continued in the fall of the year 1749 by Joshua Fry and Peter Jefferson."
29. 1731. A map of Carolina, Florida and the Bahama islands with the adjacent parts. $16\frac{1}{2} \times 23\frac{1}{4}$ in. Scale: 1 degree = 60 miles.
(In Catesby, M. Natural History of Carolina. . . London, 1831. Fold. end of Vol. 2.)
30. 1733. A new and correct map of the province of North Carolina, by Edward Moseley late Surveyor-General of the said province, 1733. $47\frac{1}{2} \times 54\frac{1}{4}$ in. Scale $4\frac{3}{4}$ in. = 25 miles.
Insets: Ocracock Inlet; Fort Beaufort or Topsail Inlet; Port Brunswick or Cape Fear Harbour.
(U. S. W. D.)
31. 1736. Carolina, by H. Moll, geographer. [London, 1736?] $7\frac{1}{2} \times 10\frac{1}{4}$ in. Scale: $1\frac{1}{2}$ in. = 120 English miles.
(L. C.)
Note: Perhaps from Moll's Atlas.
32. 1737. A map of North Carolina. $7 \times 8\frac{1}{2}$ in.
(In Brickell, John. Natural history of North Carolina. Dublin, 1737. Fold. Front.)
33. 1738. To his grace Thomas Hollis Pelham . . . this chart of his Majesties province of North Carolina with a full and exact description of the . . . capes, remarkable inlets, bars, chan-

nels, rivers, creeks, shoals, depths of water, ebbing and flowing of the tides . . . with directions for all the navigable inlets: are carefully laid down and humbly dedicated by your Grace's most humble servant, James Wimble, 1738. 11 x 37 $\frac{3}{4}$ in. Scale: 5 $\frac{1}{4}$ in.=15 leagues.

(*L. C.*)

34. 1747. Atlantic coast from Boston to Cape Hatteras. 12 x 15 $\frac{1}{4}$ in. Engraved and printed by James Turner near the Town House, Boston.

(*In A bill in the chancery of New Jersey. . . New York. Printed by James Parker, 1747. Fold. facing p. 124.*)

35. 1749. A new and exact plan of Cape Fear river from the bar to Brunswick by Edward Hyrne, 1749. 12 $\frac{1}{2}$ x 15 $\frac{1}{2}$ in. Scale: 4 $\frac{3}{4}$ in.=8 miles. London, R. Sayer and T. Jeffreys, 1749.

— (*In Jeffreys, T. Topography of North America and the West Indies. No. 63.*)

36. 1751. A map of the most inhabited part of Virginia, containing the whole province of Maryland with part of Pennsylvania, New Jersey and North Carolina. Drawn by Joshua Fry and Peter Jefferson in 1751. London, 1751. 33 $\frac{1}{2}$ x 48 in. Scale: 3 in.=30 miles.

— (*In Jeffreys, T. Topography of North America and the West Indies. London, 1768. Nos. 56 and 57.*)

Note: This map was revised in 1755 by John Dalrymple and reissued in 1775. *Cf* Phillips, P. L., *List of maps of America*, p. 612.

37. 1752. Map of the Virginia and North Carolina dividing line (from a draught at the head of a letter of Peter Fontaine, Jr.). 2 x 6 in.

(*In [Fontaine], J. Memoirs of a Huguenot family . . . reprinted from original edition of 1852. New York, [1907]. Facing p. 357.*)

— (*Fac-simile in Hawks, F. L. History of North Carolina. Fayetteville, 1858. Vol. 2. Facing p. 102.*)

38. 1754. A map of the British-American plantations, extending from Boston in New England to Georgia, including all the back settlements in the respective provinces as far as the Mississippi, by Eman. Bowen. 8 $\frac{1}{4}$ x 10 $\frac{1}{2}$ in. Scale: $\frac{3}{4}$ in.=150 British statute miles.

(*Va. State Lib.*)

39. 1755. A map of Virginia, North and South Carolina, Georgia, Maryland, with part of New Jersey. Printed for R. Baldwin, 1755. 8 $\frac{1}{4}$ x 10 in. Scale: English miles, 69 to a degree.

(*In London Magazine, v. 24 (1755). Fold. facing p. 312.*)

40. 1755. Partie de l'Amerique Septentrionale qui comprend le cours de l'Ohio . . . la Virginie, la Caroline. Par le Sr. Robert de Vaugondy, Géographe ordinaire du Roi. Avec privilege, 1755. $18\frac{1}{4} \times 23\frac{3}{4}$ in. Scale: 69 English miles to a degree.
(*U. S. G. S.*)
41. 1756. A survey of the coast about Cape Lookout in North Carolina, taken the 29th of June, 1756. By Arthur Mackay. $10\frac{3}{4} \times 14$ in. Scale: $2\frac{1}{2}$ in.=1 mile.
(*In Jeffreys, T. Topography of North America and the West Indies, London, 1768. No. 58.*)
42. 1757. Carte de la Caroline et Georgie. Pour servir à l'histoire Générale des Voyages. Tirée des auteurs Anglois par M. Bellin, Ing. de la Marine, 1757. $6\frac{3}{4} \times 10\frac{3}{4}$ in. Scale: $1\frac{1}{2}$ in.=30 lieues de France.
(*U. S. G. S.*)
Note: A German map with title, Karte von Carolina und Georgien, zur allgemeinen Geschichte der Reisen, $6\frac{1}{2} \times 9\frac{1}{2}$ in. is apparently a German edition of this map.
43. 1762. La Caroline dans l'Amerique Septentrionale suivant les Cartes Angloises. $8\frac{3}{4} \times 14$ in. Scale: 2 in.=20 lieues. [Par le sieur Bellin, Paris, 1762.]
44. 1762. A draught of the Cherokee country on the west side of the twenty-four mountains . . . taken by Henry Timberlake . . . in March, 1762. 9×15 in. Scale: 3 in.=3 miles.
(*In Memoirs of Lieut. Henry Timberlake. . . London, for the author, 1765. Fold. Front.*)
— (*In Jeffreys, T. Topography of North America and the West Indies, London, 1768. No. 64.*)
45. 1762. A new and correct map of the provinces of North and South Carolina, Georgia and Florida. $10\frac{1}{2} \times 13\frac{1}{2}$ in. Scale: 2 in.=150 statute miles.
(*In The American Gazetteer . . . Vol. 1. London, 1762.*)
46. 1765. A new map of North and South Carolina and Georgia. Drawn from the best authorities by T. Kitchin, Geogr. $6\frac{1}{4} \times 8\frac{1}{8}$ in. Scale: British statute miles, 69 to a degree.
(*In London Magazine, v. 34 (1765): Fold. facing p. 168.*)
47. 1770. A compleat map of North Carolina from an actual survey, by Capt. Collet, Governor of Fort Johnston. Engraved by I. Bayley. (To his most excellent Majesty George the III . . . this map is dedicated by . . . John Collet.) London, T. Hooper, 1770. $27\frac{1}{2} \times 38\frac{1}{2}$ in. A scale of British miles, 69 $\frac{1}{2}$ to a degree.
(*L. C.*)

48. 1771. Plan of the entrance into Cape Fear harbour, North Carolina. 10 x 14 in. Scale: 2 in.=2 Eng. miles.
(*In* Speer, Joseph Smith. *The West India Pilot*. London, W. Griffen, 1771, No. 13. Fold. facing p. 53.)
49. 1775. An accurate map of North and South Carolina with their Indian frontiers, showing in a distinct manner all the mountains, rivers, swamps, marshes, bays, creeks, harbors, sandbanks, and soundings on the coast. With the roads and Indian paths: as well as the boundaries or provincial lines, the several townships and other divisions of the land in both the provinces; the whole from actual surveys by Henry Mouzon and others. London, for R. Sayer and J. Bennett, 1775. $39\frac{1}{4} \times 55\frac{3}{4}$ in. Scale: English miles, $69\frac{1}{2}$ to a degree. Insets: Harbor of Port Royal; Harbor and bar of Charlestown. (L. C.)
Note: This map was also published in Jefferys, T., *American Atlas*, Nos. 23 and 24; Faden, *North American Atlas*, Nos. 29 and 30; Le Rouge, *Atlas American Septentrionale*, Nos. 19 and 20; Library of Congress, *American maps*, v. 1, No. 23; v. 5, Nos. 25 and 26.
50. 1775. A map of the most inhabited part of Virginia, containing the whole province of Maryland with part of Pennsylvania, New Jersey and North Carolina. Drawn by Joshua Fry and Peter Jefferson in 1775. (By William Churton and Daniel Weldon of North Carolina, Joshua Fry and Peter Jefferson of Virginia.) $15 \times 46\frac{3}{4}$ in. Scale: 3 in.=30 miles.
(L. C.)
51. 1776. A general map of the southern British colonies in America, comprehending North and South Carolina, Georgia . . . from the modern surveys of Engineer de Brahm, Capt. Collet, Mouzon and others . . . by B. Romans, 1776. London, printed for R. Sayer and J. Bennett, 1776. $19 \times 24\frac{1}{2}$ in. Scale: British statute miles, $69\frac{1}{2}$ to a degree.
(S. B. W.)
52. 1776. A new map of North and South Carolina and Georgia. Aitkin, Sculp. $6 \times 8\frac{1}{2}$ in. Scale: British statute miles, 69 to a degree.
(*In* The Pennsylvania Magazine. Vol. 2, 1776. Fold. facing p. 268.)
53. 1777. Nouvelle carte des côtes des Carolines Septentrionales et Meridionales du Cap Fear a Sud Edisto. Levées et Soudées par N. Pocock en 1770. Traduite de l'Anglois. A Paris, 1777. $15\frac{1}{2} \times 20\frac{1}{4}$ in. Scale: $2\frac{3}{4}$ in.=5 lieues.
(S. B. W.)

54. 1778. A new map of the western parts of Virginia, Pennsylvania, Maryland and North Carolina; comprehending the river Ohio and all the rivers which fall into it; part of the river Mississippi, the whole of the Illinois river, Lake Erie, part of the Lakes Huron, Michigan, etc., and all the country bordering on these lakes and rivers. By Thos. Hutchins. Engraved by T. Cheevers. London, T. Hutchins, 1778. $34\frac{1}{4}$ x $41\frac{3}{4}$ in.
(*In* Hutchins, Thomas. *Topographical description of Virginia, Pennsylvania, Maryland and North Carolina*. . . London, 1778. Fold. Front.)
Note: This map was also published by Le Rouge, Paris, 1781.
55. 1778. Plan de la riviere du Cap Fear depuis la Barre jusques à Brunswick . . . par ordre de M. de Sartine, 1778. 13 x 22 in. Scale: 60 miles to a degree. (Depot de la Marine.)
(*L. C.*)
56. 1779. A new and accurate map of North Carolina in America. $10\frac{1}{4}$ x $13\frac{1}{2}$ in. Scale: 2 in.=30 miles.
(*In* The Universal Magazine. Vol. 65. London, 1779. Fold. facing p. 169.)
57. 1781. Map of Cape Fear river with the counties adjacent and the towns of Brunswick and Wilmington, against which Lord Cornwallis detached a part of his army . . . London, published by J. Bew, 1781. 7 x $9\frac{1}{2}$ in. Scale: $2\frac{1}{2}$ in.=15 miles.
(*U. S. G. S.*)
58. 1782. Carte des Carolines et de la Georgia. $8\frac{1}{2}$ x $12\frac{1}{2}$ in. Lieues d'une heure, de 20 au degré.
(*In* Hilliard d'Auberteuil, [M. R.] *Essais historiques et politiques sur les Angla-Américains*. Gravures et carte. Bruxelles, 1781. Vol. 1. Fold. facing p. 387.)
59. 1787. A map of the country between Albemarle sound and Lake Erie, comprehending the whole of Virginia . . . Engraved for the Notes on Virginia . . . $22\frac{1}{2}$ x $22\frac{1}{4}$ in. Scale: American miles, $69\frac{1}{2}$ to a degree.
(*S. B. W.*)
60. 1788. The Carolinas with part of Georgia. $13\frac{1}{2}$ x 14 in. Scale: 3 in.=80 British statute miles.
(*In* Gordon, William. *The history . . . of the independence of the U. S.* Vol. 3. London, 1788. Fold. at end.)
61. 1788. A map of the States of Virginia, North Carolina, South Carolina and Georgia, comprehending the Spanish provinces of East and West Florida exhibiting the boundaries between the United States and Spanish Dominions as fixed by the

Treaty of Peace in 1783. Compiled from late surveys and observations by Joseph Purcell. $12\frac{1}{4} \times 14$ in. Published by Thomas & Andrews, Boston. Engraved for Morse's geography by Amos Doolittle at New Haven. Scale of miles, $69\frac{1}{2}$ to a degree.

(*In Morse, Jedidiah. The American Geography. Elizabethtown, Shepard Kollock, 1789. Fold. Front.*)

— — — (*In Morse, Jedidiah. American Universal Geography. Boston, 1793. Fold. facing p. 632.*)

62. 1789. Chart of the coast of America from Cape Fear to Cape Lookout, from the latest surveys. Published and sold by Matthew Clark, Boston. $15\frac{3}{4} \times 23\frac{3}{4}$ in.
Inset: A plan of the harbour and entrance of Cape Fear and the shoals. 7×14 in.

(*In Chart of the Coast of America. Boston, 1789. No. 13.*)

63. 1789. Chart of the coast of America from Cape Henry to Cape Lookout. Published and sold by Matthew Clark, Boston. 16×35 in.

(*In Chart of Coast of America. Boston, Matthew Clark, 1789. No. 11.*)

64. 1793. New map of the States of Georgia, South and North Carolina, Virginia and Maryland, including the Spanish provinces of west and east Florida from the latest surveys. Cornelius Tiebout, Sculp., New York. $11\frac{1}{2} \times 14$ in. Scale of miles, $69\frac{1}{2}$ to a degree.

(*In Imlay, G. A topographical description of the Western territory of North America. . . New York, 1793. Fold. Front.*)

65. 1794. An accurate map of North and South Carolina with their Indian frontiers, showing in a distinct manner all the mountains, rivers, swamps, marshes, bays, creeks, harbours, sandbanks and soundings on the coast: with the roads and Indian paths, as well as the boundary or provincial lines, the several townships and other divisions of the land in both the provinces; the whole from actual surveys by Henry Mouzon and others. Published by Laurie & Whittle, 1794. $38\frac{1}{4} \times 53\frac{3}{4}$ in. Scale: English miles, $69\frac{1}{2}$ to a degree.

Insets: Harbour of Port Royal; Bar and harbour of Charleston.

(*U. S. W. D.*)

66. 1794. Chart of the coast of America from Cape Hatteras to Cape Roman, from the actual surveys of D^r. Dunbibin, Esq. $20 \times 30\frac{3}{4}$ in. A scale of 20 English leagues.

(*In The American Pilot, W. Norman, 1794. Boston, 1798. No. 4.*)

67. 1794. A new chart of the coast of North America from Currituck inlet to Savannah river, comprehending the coasts of North and South Carolina, by Captain N. Holland. $27\frac{1}{4} \times 40$ in. London, Laurie & Whittle, 1794.
(*U. S. G. S.*)
68. 1794. Sketch of the Catawba river at McCowan's Ford. $6\frac{3}{4} \times 7$ in.
(*In Stedman, Charles. History of origin, progress and termination of the American war. London, 1794. Facing p. 329.*)
69. 1795. A map of the States of Virginia, North Carolina, South Carolina and Georgia, comprehending the Spanish provinces east and west of Florida, exhibiting the boundaries as fixed by the late Treaty of Peace between the United States and the Spanish Dominions. Compiled from late surveys and observations by Joseph Purcell. $11\frac{1}{4} \times 14$ in. Scale of miles, $69\frac{1}{2}$ to a degree.
(*U. S. G. S.*)
70. 1795. North Carolina. $7 \times 8\frac{3}{4}$ in. Scale: 1 in.=60 miles.
(*In Scott, Joseph. The United States Gazetteer. Phila., 1795. Fold.*)
—— (*In Scott, Joseph. New and Universal Gazetteer. . . Vol. 4. Phila., 1800.*)
71. 1796. Map of North and South Carolina by J. Denison. $7 \times 8\frac{3}{4}$ in. Scale: 2 in.=100 miles.
(*In Morse, Jedidiah. American Universal Geography, Ed. 3. Boston, 1796. Fold. facing p. 640.*)
72. [1797?] Partie de la province de la Caroline du Nord. $9\frac{1}{4} \times 10\frac{1}{4}$ in. Scale: $3\frac{1}{2}$ in.=65 American miles.
(*In Compagnie de Wilmington dans la Caroline du Nord . . . [Paris? 1797.] Fold. at end.*)
73. 1797. Sketch of Cape Fear river bar and entrance as surveyed 1795 by Joshua Potts. Sketch made in 1852. $15\frac{3}{4} \times 22\frac{1}{2}$ in. Scale, 1:100,000.
(*U. S. W. D.*)
74. 1798? A map of Cape Fear river and its vicinity, from the Frying Pan shoals to Wilmington. Engraved for Joshua Potts. Scoles, Sculp., New York. $5\frac{1}{2} \times 7\frac{3}{4}$ in. Scale of miles, $69\frac{1}{2}$ to a degree.
(*U. S. W. D.*)
75. 1798. To navigators this chart, being an actual survey of the sea-coast and island navigation, from Cape Henry to Cape Roman is most respectfully inscribed by Price and Strother.

Published agreeable to act of Congress. Engraved by W. Johnston. New-Bern, North Carolina, 1798. 14 x 37½ in. A scale of leagues, 20 to a degree.

(L. C.)

76. 1800. An exact map of North and South Carolina and Georgia with east and west Florida from the latest discoveries. J. Lodge, Sculp. 8 x 10 in.

(In Russell, William. *History of America*. . . Vol. 2. London, 1800. Fold. facing p. 296.)

77. 1800. North Carolina from the best authorities. 7 x 12½ in. Engraved for the New Encyclopædia. Published by I. Low, New York. Scale: 2½ in.=65 miles.

(S. B. W.)

78. 1801. Map of North Carolina. 5½ x 7 in. Scale: 2 in.=60 miles.

(In Carey's *American pocket atlas*. . . Phila., 1801. Fold. facing p. 92.)

Note: This map is accompanied by a description of the state, pp. 92-95.

79. 1804. A map of the country betwixt Chowan and Nansemond rivers, shewing the track of a canal proposed to be cut from Bennett's creek, North Carolina, to Suffolk (Virginia). *Vide* Acts of the Virginia and North Carolina assemblies passed at the session of 1804-5. 12 x 13½ in.

(In *Am. State Papers*, Misc., v. 1. Fold. facing p. 764.)

80. 1806-08? A map of Cape Fear river and its vicinity from the Frying Pan shoals to Wilmington by actual survey. Addressed to the commissioners of navigation of Port Wilmington by Price & Strother. 13 x 19 in. Scale of miles, 69½ to a degree.

(U. S. W. D.)

81. 1806. Carte des deux Carolines et de la Géorgie. 8¼ x 12¾ in. Scale: 2½ in.=30 lieues.

(S. B. W.)

82. 1806. A chart of the coast of North Carolina between Cape Hatteras and Cape Fear from a survey taken in the year 1806 by Thomas Coles and Jonathan Price. Pursuant to Act of Congress. 23½ x 33½ in.

Insets: Cape Lookout and Beaufort harbor; Ocracoke bar including Shell Castle.

(U. S. C. & G. S.)

83. 1808. To David Stone and Peter Brown, Esq., this first actual survey of the State of North Carolina taken by the subscribers

is respectfully dedicated by their humble servants, Jonathan Price, John Strother, 1808. Phila., 1808. $28\frac{3}{4} \times 59\frac{1}{4}$ in. Scale of miles, $69\frac{1}{2}$ to a degree.

(*L. C.*)

84. 1808. A plan of the harbour of Ocracock and the entrance into Pamlico sound, 1808. $9\frac{1}{2} \times 12\frac{1}{4}$ in. Scale: 2 in.=2 miles.
(*U. S. W. D.*)

85. 1812. Map of North Carolina. $6 \times 9\frac{1}{2}$ in.
(*In Williamson, Hugh. History of North Carolina, Phila., 1812. Vol. 1. Fold. Front.*)

86. 1816. "This sketch . . . describes the country lying between the Chesapeake bay and Albemarle sound," by James Kearney, U. S. Top'l Eng. $12 \times 19\frac{1}{2}$ in. Scale: 3 in.=15 miles. MSS.

(*In Kearney, James. Report relative to the connection of waters of Elizabeth river and the waters of North Carolina.*)

(*U. S. W. D.*)

87. 1819. Longitudinal section of the Neuse river from Stone's Mill to Major Turner's ferry below Smithfield, by Rob't H. B. Brazier, 1819. $9\frac{1}{2} \times 128\frac{3}{4}$ in. MSS.

(*Off. Sec. of State, N. C.*)

88. 1819. Plan of the Neuse river from Stone's Mill to Major Turner's ferry shewing the proposed situation of the locks and dams. Surveyed under the direction of Hamilton Fulton by Rob't H. B. Brazier, 1819. $36\frac{1}{4} \times 82$ in. Scale: 160 chains=2 miles. MSS.

(*Off. Sec. of State, N. C.*)

89. 182-? Caroline septentrionale. $14 \times 17\frac{1}{2}$ in. Scale: $3\frac{1}{2}$ in.=90 miles.

(*S. B. W.*)

90. 1820. Plan and sections of a line of canal from the Tar river to the Toisnot creek, and a survey of that creek to its junction with the Contentnea. Surveyed under direction of Hamilton Fulton, by Robt. H. B. Brazier, 1820. $34 \times 124\frac{3}{4}$ in. Scale: 160 chains=2 miles. MSS.

(*Off. Sec. of State, N. C.*)

91. 1820. Plan and sections of part of Crab Tree and Walnut creeks. Surveyed under the direction of Hamilton Fulton, C. E., by Robt. H. B. Brazier, 1820. $27\frac{1}{2} \times 43\frac{1}{4}$ in. Scale: 80 chains=1 mile. MSS.

(*Off. Sec. of State, N. C.*)

92. 1820. A diagram of the entrance to Cape Fear river and the Frying Pan shoals. Pursuant to an Act of Congress passed in 1820. $20\frac{3}{4} \times 146\frac{3}{4}$ in. Scale: $5\frac{1}{2}$ in.=3000 yards.
(U. S. W. D.)
93. 1820. Plan of Croatan and Roanoke sounds showing the proposed situations of the embankments and inlet. By Hamilton Fulton, C. E., to the State of North Carolina, 1820. $9\frac{3}{4} \times 15\frac{1}{4}$ in. Scale: 4 in.=3 miles.
(U. S. W. D.)
Note: Original drawing of this map may be found in the office of the Secretary of State, Raleigh, N. C.
94. 1820. A trigonometrical diagram of the Cape Lookout shoals . . . Pursuant to an Act of Congress passed in 1820. $20\frac{1}{4} \times 74$ in. A scale of 4000 yds. $6\frac{1}{2}$ in.=2 mi.
(U. S. W. D.)
95. 1821. A new chart of the coast of North and South Carolina, Georgia and east Florida. Drawn from the latest authorities by Samuel Lambert, Salem, (Mass.). $15\frac{3}{4} \times 30$ in. A scale of leagues, 20 to a degree. Cushing & Appleton, and S. Lambert, Salem, (Mass.), 1821.
(L. C.)
96. 1821. Plan of the Tar river from Louisburg to the Little Falls showing the proposed situation of the locks and dams. Surveyed under the direction of Hamilton Fulton, by Rob't H. B. Brazier. 56×122 in. Scale of chains: 160 chains=2 miles. MSS.
(Off. Sec. of State, N. C.)
97. 1821. Transverse sections of the Cape Fear river between Buckhorn Falls and Campelton by Rob't H. B. Brazier, 1821. $50\frac{1}{2} \times 122\frac{1}{2}$ in. MSS.
(Off. Sec. of State, N. C.)
98. 1821. Military reconnaissance of the country near Wilmington in the State of North Carolina, 1821. [By] James Kearney, Maj. Top. Eng. $42\frac{1}{2} \times 48\frac{1}{2}$ in. Scale of four inches to a mile.
(U. S. W. D.)
99. 1821. Plan of Ocracock inlet, N. C. Surveyed by Maj. Abert, assisted by Lieuts. McNeill, Vinton & Whistler. Drawn by Lieut. Strong, March, 1821. 56×86 in. Scale: 12 inches =1 mile.
(U. S. W. D.)

100. 1821. Reconnaissance of the sounds from Bogue inlet to Cape Fear river in the state of North Carolina, 1821. [By] James Kearney . . . drawn by Lieut. Turnbull. $27\frac{1}{2} \times 145$ in. Scale: 2 inches=1 mile.
(*U. S. W. D.*)
101. 1822. Plan of the stage road from Fayetteville by Raleigh, Louisburg, Warrenton and Robinson's ferry, to the Virginia line. Surveyed by Hamilton Fulton, 1822. 27×223 in. Scale: 240 chains=3 miles. MSS.
(*Off. Sec. of State, N. C.*)
102. 1823. Plan of the road from Salem to Fayetteville, by Randolph and Moore court houses. Surveyed by Hamilton Fulton, State Eng., 1823. Drawn by Rob't H. B. Brazier. 25×207 in. Scale: 240 chains=3 miles. MSS.
(*Off. Sec. of State, N. C.*)
103. 1823. Survey of the Cape Fear river from the upper to the lower flats. 1823 [by] Hamilton Fulton, 21×72 in. Scale: 4 in. =880 yards.
(*U. S. W. D.*)
104. 1824. Plan of the Catawba river from the Devil's shoals to near Sherill's Ford. Surveyed under direction of Hamilton Fulton by Rob't H. B. Brazier, 1824. Scale: 80 chains=1 mile. $41\frac{3}{4} \times 121\frac{3}{4}$ in. MSS.
(*Off. Sec. of State, N. C.*)
105. 1825. Geological map of North Carolina, prepared by Prof. Denison Olmsted in connection with his geological survey of the state made during 1824 and 1825 under the direction of the State Board of Agriculture. $10 \times 15\frac{1}{4}$ in.
(*N. C. S. L.*)

Note: The following inscription (imperfect in places) is on this map: "This first attempt to sketch the geological features of North Carolina is respectfully inscribed to the Board of Agriculture. It claims to be merely an outline to be covered and filled up by succeeding observations. As such, it is believed that the Board of Agriculture can make it of special service in prosecuting the Geological Survey, and that this when published . . . shows both Currituck inlets, Roanoke inlet, one in Oregon inlet, Ocracoke inlet, Drum inlet. Granite-gneiss, mica-slate, argyllite, etc., sandstone or coal formation, great slate formation, iron beds, limestone beds, plumbago of Wake, transition formations."
106. 1826 [Map of coast from Cape Hatteras to Cape Fear,] New York. 1826. Published by E. & G. W. Blunt. $25 \times 37\frac{1}{2}$ in. Insets: Cape Fear river from its entrance to Smithville; Beaufort harbor; Cape Fear; Cape Lookout; Cape Hatteras; the bar and roads of Ocracoke.
(*U. S. C. & G. S.*)

107. 1826. North and South Carolina and Georgia. $6\frac{1}{2} \times 9$ in.
*(In Armroyd, George. A connected view of the whole
 internal navigation of the United States. Phila., 1826.
 Fold. at end.)*
108. 1826. Plan of the Buncombe Turnpike road from Asheville to the
 Painted Rock at the Tennessee line. Surveyed by order of
 the Board for Internal Improvement by Rob't H. B. Brazier,
 1826. 33×249 in. Scale: 80 chains=1 mile. MSS.
(Off. Sec. of State, N. C.)
109. 1826. A chart of the coast of North Carolina, comprising the 3
 capes, Hatteras, Lookout and Fear, with the harbours Occra-
 cock, Beaufort and Smithville, made agreeably to Act of
 Congress of the United States . . . by S. Bernard, J. G.
 Totten, J. D. Elliott. 47×56 in. Scale: 9 in.=30 miles.
 Insets: Bar and roads of Occracock; Beaufort harbour; Cape
 Fear river from the bar to Smithville.
(U. S. W. D.)
110. 1826. Map of reconnaissance exhibiting the country between Wash-
 ington and New Orleans with the routes examined in refer-
 ence to a contemplated National road between these two
 cities. 17×21 in. Scale: 2 in.=80 miles.
(U. S. W. D.)
111. 1826. Plan of the Dismal Swamp canal drawn by J. Farley, U. S.
 A. [1826.] 25×31 in.
(U. S. W. D.)
112. 1827. Plan of that part of Uhara Swamp lying between the road
 leading from Jackson to Bryan's Cross Roads and Pottocasy
 creek in the county of Northampton. Surveyed by order of
 the Board for Internal Improvement, 1827. Drawn by R.
 H. Brazier, 1828. $12\frac{1}{4} \times 28\frac{1}{2}$ in. Scale: 160 chains=2 miles.
 MSS.
(Off. Sec. of State, N. C.)
113. 1827. Plan of the great Dismal Swamp or Lebanon Desert lying in
 the counties of Gates, Perquimans, Pasquotank, Camden and
 Currituck in the State of North Carolina. Surveyed by
 order of the Board of Internal Improvement, 1827. Drawn
 by R. H. B. Brazier, 1828. $27\frac{1}{2} \times 30$ in. Scale: 240 chains
 =3 miles. MSS.
(Off. Sec. of State, N. C.)
114. 1827. Cape Fear river, N. C., below the town of Wilmington. Sur-
 veyed in 1827 by Hartman Bache . . . W. M. Boyce . . .
 Samuel Wragg . . . 29×117 in. Scale: 4 in. to 1 mi.
(U. S. W. D.)

115. 1827. Survey of the country between Beaufort harbor and Neuse river, North Carolina, shewing the different routes for a ship canal to connect those waters. Surveyed in 1827-28 by Hartman Bache. Drawn by Hartman Bache, W. M. Boyce, J. R. Irwin. $46\frac{1}{4} \times 83$ in. Scale: 4 inches=1 mile.
(*U. S. W. D.*)
116. 1827. Survey shewing obstructions to navigation at Ocracoke inlet, N. C. Surveyed by Hartman Bache. Drawn by J. D. Graham and W. M. Boyce. $59\frac{3}{4} \times 83\frac{3}{4}$ in. Scale: 12 inches=1 mile.
(*U. S. W. D.*)
117. 1827. Survey shewing the obstructions to the navigation of Cape Fear river below the town of Wilmington, N. C., in 1827. [By Capt. Bache, Lieuts. Boyce & Wragg.] . . . $28 \times 194\frac{1}{4}$ in. Scale: 12 in. to 1 mi.
(*U. S. W. D.*)
118. 1828. Plan of the swamp lands between Albemarle and Pamlico sounds. Drawn by order of the Board for Internal Improvements by R. H. B. Brazier, 1828. $28 \times 42\frac{1}{2}$ in. Scale: 4 in.=4 miles.
(*Off. Sec. of State, N. C.*)
119. 1829. Map illustrating the geology of the gold region of North Carolina. $7 \times 10\frac{1}{2}$ in. Scale: 2 inches=10 miles. Copied from Price & Strother's large map of the state.
(*In Mitchell, Elisha. On the geology of the gold region of North Carolina. Am. Jour. Sci., Ser. I, v. 16, 1829. Fold. facing p. I.*)
120. 1829. North Carolina. Pasquotank river and sand bar and shoal. 1829. $25 \times 38\frac{1}{2}$ in.
(*U. S. W. D.*)
121. 1829? Survey of Roanoke inlet and sound by Lieuts. Boyce and Wragg, under the direction of Hartman Bache. Drawn by Lieut. V. D. Graham. Reduced from original map and drawn by J. M. McClellan. $13\frac{1}{2} \times 16$ in. Scale: 4 in.=4 miles.
(*U. S. W. D.*)
122. 1830. Map of Ocracoke inlet. $27\frac{1}{4} \times 46\frac{1}{2}$ in. Scale: 4 in. to 1 mi. MSS.
(*U. S. W. D.*)

Note: Has on MSS.: "Chiefly from compilation. The position of islands, headlands, lighthouses, lightboats and other principal points being determined by actual triangulation . . ."

123. 1832. Map of North and South Carolina and Georgia, constructed from the latest authorities. Phila., S. Augustus Mitchell, 1832. $15\frac{1}{2} \times 21$ in. Scale: 3 in. = 80 miles.
(*L. C.*)
124. 1832. Map shewing the routes of the Central and Cape Fear and Yadkin Railroads explored 1832. Drawn by W. Schlatten. Surveyed by E. McIlvaine and H. Hogé. $29\frac{3}{4} \times 96\frac{3}{4}$ in. MSS.
(*Off. Sec. of State, N. C.*)
125. 1833. Geological map of the mining districts in the state of Georgia, western parts of Carolina and in East Tennessee by Jacob Peck. $11\frac{3}{4} \times 14$ in. Scale: $2\frac{1}{2}$ in. = 40 miles.
(*In Peck, J. Geological and mineralogical account of the mining districts in the state of Georgia. . . Am. Jour. Sci., Ser. I, v. 23, 1833. Fold. facing p. I.*)
126. 1833. A new map of the state of North Carolina, constructed from actual surveys; authentic public documents and private contributions by Rob't H. D. Brazier, Phila. Published under patronage of the legislature by John MacRae, 1833. $34\frac{3}{4} \times 83$ in. Scale: 5 in. = 30 miles.
(*L. C.*)
127. 1833. North America. Sheet XI. Parts of North and South Carolina. Published under the superintendence of the society for the diffusion of useful knowledge. $12\frac{3}{4} \times 14\frac{1}{4}$ in. London, Baldwin & Cradock, 1833.
(*U. N. C. L.*)
128. 1834. Map of parts of Brunswick, Bladen and Columbus counties, North Carolina. Shewing the experimental lines, traced to ascertain the practicability of uniting the navigable waters of Cape Fear and Waccamaw rivers . . . Surveyed under direction of James Kearney, by E. B. White, R. T. P. Allen and R. S. Smith, 1834. $28\frac{3}{4} \times 48\frac{3}{4}$ in. Scale: 1 inch to a mile.
(*U. S. W. D.*)
129. 1835. A map of North Carolina and South Carolina, exhibiting the postoffices and postroads, by David H. Burr. MSS. copied from his map of these states for the use of the Committee on Postoffices and Postroads of the House of Representatives, 1835. $48\frac{1}{4} \times 56\frac{3}{4}$ in.
(*L. C.*)

130. 1835. A map of Ocracoke inlet. As compiled by Lieut. Dutton with alterations as determined in 1835 by Alex. I. Swift. $18\frac{3}{4} \times 22$ in. Scale: 4 inches to the mile.
(U. S. W. D.)
Note: This map is reproduced $8\frac{1}{4} \times 11\frac{1}{4}$ in., in Chief of Eng. Rept., 1893, pt. 2. Facing p. 1376.
131. 1836. A map of North and South Carolina, accurately copied from the old maps of James Cook, published in 1771, and of Henry Mouzon in 1775. $16\frac{1}{4} \times 20\frac{3}{4}$ in. Scale: English miles, $69\frac{1}{2}$ to a degree.
Insets: Plan of Beaufort; Plan of Camden; Plan of Charleston; Plan of Georgetown.
(In Carroll, B. R. Historical collections of South Carolina. N. Y., 1836. Fold. Front.)
132. 1836. Sketch of the country embracing several routes from Portsmouth, Ohio, to Linville, N. C., and exhibiting the relative positions of the contemplated road and various important points situated between the Atlantic Ocean and the Northern Lakes. Drawn by F. L. Dancy, under direction of Lieut.-Col. S. H. Long. $11\frac{3}{4} \times 39\frac{3}{4}$ in. Scale: $2\frac{3}{4}$ in. = 50 miles.
(In U. S. 24th Cong., 1st Sess., 1836. House Doc. No. 169. Fold. facing p. 16.)
— (In A collection of maps published by order of Congress. Wash., 1843. No. 87.)
(L. C.)
133. 1837. Map of parts of Brunswick, Bladen & Columbus counties, North Carolina, and Harry district, South Carolina. Shewing the experimental lines traced to ascertain the practicability of uniting the navigable waters of the Cape Fear and Waccamaw rivers . . . Surveyed . . . 1834 and . . . 1837. $37\frac{1}{4} \times 49\frac{1}{4}$ in. Scale: 1 mi. to 1 in.
(U. S. W. D.)
134. 1837. [Map] reduced from a "Map of the State Road from Franklin, N. C., to Georgia line . . . 1837." By J. L. Smith, commissioner. $14\frac{1}{2} \times 26$ in. Scale: 2 miles to 1 inch. MSS.
(Off. Sec. of State, N. C.)
135. 1837. Core sound, North Carolina, surveyed under the direction of J. Kearney, by T. J. Lee, L. Sitgreaves and A. M. Mitchell, 1837. Drawn by T. J. Lee and L. Sitgreaves. In 4 sheets, each $13 \times 20\frac{1}{4}$ in.
No. 1. Harbor Island bar entrance into Core sound.
No. 2. Drum shoal in Core sound.

No. 3. Piney Point shoal in Core sound.

No. 4. Bells Point shoal in Core sound.

(*In U. S. 25th Cong., 2d Sess., 1838. House Doc. No. 445.*)

136. 1837. A map of a survey of the mouth of New river, N. C., made under the direction of Lieut. A. I. Swift, Aug't, 1837. By H. Bliss. 26 x 48 $\frac{1}{4}$ in. Scale: 1 ft. to 1 mi. MSS.
(*U. S. W. D.*)
137. 1837. Map of part of the Cherokee territory situated among the mountains of North Carolina, Georgia and Tennessee, from surveys under the direction of W. G. Williams in 1837 and 1838, by Philip Harry, C. E. . . . 47 $\frac{3}{4}$ x 53 $\frac{3}{4}$ in. Scale: 10 $\frac{1}{2}$ in.=13 miles.
(*U. S. W. D.*)
138. 1837. A map of the Cherokee country in North Carolina, surveyed in the year 1837. Drawn from the returns of Deputy Surveyors by R. Deaver. 52 x 74 in. Scale: 200 poles to 1 inch.
(*U. S. W. D.*)
139. 1837. Map of the country between Roanoke river and Nansemond river and the Dismal Swamp, shewing among others, the routes of the Roanoke and Suffolk canals and their connection with the Dismal Swamp canal. James Kearney. 21 $\frac{3}{4}$ x 39 $\frac{1}{2}$ in. Scale: 17 $\frac{1}{2}$ in.= 20 miles.
(*U. S. W. D.*)
140. 1837. Survey between the Neuse and Cape Fear rivers, N. C., to ascertain the route of a steamboat canal . . . by Emory, Cutts & Tilghman. 27 $\frac{1}{4}$ x 97 $\frac{3}{4}$ in. Scale: 1 inch=1 mile.
(*U. S. W. D.*)
141. 1837. Survey of Bogue sound, North Carolina, made under direction of J. Kearney by F. H. Smith, A. Mitchell, T. Kennedy, 1837. 29 $\frac{1}{2}$ x 125 $\frac{1}{4}$ in.
(*U. S. W. D.*)
142. 1837. Survey of Croatan sound, North Carolina, made under the direction of Lieut.-Col. J. Kearney . . . by J. McClellan, F. H. Smith, 1837. 49 x 53 $\frac{3}{4}$ in.
(*U. S. W. D.*)
143. 1837. Survey of the Pasquotank river, North Carolina. Made under the direction of Lieut.-Col. J. Kearney . . . By J. McClellan and F. H. Smith. . . 1837. 27 $\frac{1}{4}$ x 97 $\frac{3}{4}$ in. Scale: 4 in. to 1 mi.
(*U. S. W. D.*)

144. 1838. Map of the State lands in Hyde. Surveyed by R. L. Myers and W. P. Munford under the direction of Walter Guynn, 1838. $29\frac{1}{2} \times 50\frac{3}{4}$ in. Scale of 16,000 ft. MSS.
(*Off. Sec. of State, N. C.*)
145. 1839. Map of North and South Carolina. Exhibiting the post-offices, postroads, canals, railroads, etc. By David H. Burr. Washington, 1839. $48\frac{1}{4} \times 56\frac{3}{4}$ in. Scale: 6 in.=60 miles.
(*L. C.*)
146. 1839. Beaufort harbor, North Carolina, surveyed by order of Honorable J. K. Paulding. Executed by Lieut. James Glynn. Drawn by H. C. Flagg. 23×29 in. Scale, 1:9600.
(*U. S. W. D.*)
147. 1839. Cape Fear river, North Carolina, surveyed in conformity to an act of Congress and executed by Lieut. James Glynn, July, 1839. $20\frac{1}{4} \times 90\frac{1}{2}$ in. Scale, 1:10,000.
(*U. S. W. D.*)
148. 1839. A chart of the entrance to Cape Fear river, surveyed by order of Hon. J. K. Paulding, Sec. of Navy. Executed by Lieut. James Glynn . . . 1839. $46\frac{1}{4} \times 74$ in. Scale, 1:10,000.
(*U. S. W. D.*)
149. 1839. Continuation of the survey of Cape Fear river executed in 1839 by Lieut. James Glynn. Washington, 1839. $20\frac{3}{4} \times 60$ in. Scale, 1:5000.
(*U. S. W. D.*)
150. 1839. [Map of] Brunswick county, North Carolina, compiled and . . . from the best authorities . . . exhibiting . . . several parcels . . . land in the county . . . respectfully dedicated by A. Foster. [1839.] $16 \times 21\frac{1}{2}$ in.
(*U. S. W. D.*)
Note: This map is imperfect and part of the lettering is obliterated.
151. 1840. Map of Franklin county, township lines divided by a survey of the county made by Jos. Bridgers in 1840. $26\frac{1}{2} \times 27$ in. Scale: 1 mile to 1 inch. MSS.
(*Off. Sec. of State, N. C.*)
152. 1840-55(?) Maps 9-13 of the Piedmont division, Swanannoa route, N. C. & Western R. R. Survey. Made under the direction of Walter Guynn, by James C. Turner. Five sheets, each $25\frac{3}{4} \times 46\frac{3}{4}$ in. Scale: 800 ft. to 1 inch.
(*Off. Sec. of State, N. C.*)

153. 1841. Esquisse des principales chaines des Monts Apalaches. $10\frac{1}{2}$ x $10\frac{1}{2}$ in.
(In Woodbridge, W. C. Description des Monts Apalaches. Soc. de Géographie, Bull., Ser. II, v. 16 (1841): Fold. at end.)
154. 1842. Geological map of North Carolina. 8 x 11 in. Scale: $2\frac{1}{2}$ in. = 100 miles.
(In Mitchell, Elisha. Elements of Geology. . . 1842. Fold. Front.)
155. 1842. Map of the States of North and South Carolina. 9 x 15 in. Scale: Geographic miles, 60 to a degree.
Inset: Plan of Charleston.
(In Hinton, J. H. History and topography of the United States, Ed. 3. London, 1842. Vol. 1. Fold. facing p. 194.)
156. 1843. Map of the states of North Carolina, South Carolina and Georgia. 16 x 21 in. Scale: $3\frac{1}{2}$ in. = 100 miles. Phila., S. Augustus Mitchell, 1843.
Inset: Vicinity of Charleston.
(U. S. G. S.)
157. 1843. North Carolina. $11\frac{1}{2}$ x 15 in. Scale: $1\frac{1}{2}$ in. = 50 miles.
(Entered according to act of Congress in the year 1843 by Sidney E. Morse and Samuel Breese. . .)
(S. B. W.)
158. 1844. A map of the Albemarle Swamp Land Company's Lands and that part of the lands claimed by the State lying near Lake Pungo and Pungo river, by Washington W. Hyman, May, 1844. $30\frac{1}{4}$ x $42\frac{1}{2}$. Scale: 200 poles to an inch. MSS.
(Off. Sec. of State, N. C.)
159. 1845. Haywood county. "This map is a fair representation of that part of the gold region which has been surveyed in the county of Haywood and made by order of court, March, 1845." 14 x $29\frac{3}{4}$ in. Scale: 100 poles = 1 inch. MSS.
(Off. Sec. of State, N. C.)
160. 1846. Sketch D showing the progress of Section No. 4 (coast of North Carolina), U. S. Coast Survey in 1845-46. $5\frac{1}{2}$ x $7\frac{1}{4}$ in. Scale, 1:600,000.
(In U. S. Coast Survey, Rept. 1846. Sketch D.)
161. 1847. Maps of the Philadelphia and North Carolina Mining Company's estate, Rutherford county, North Carolina, by F. Gipperich. $18\frac{1}{2}$ x $25\frac{1}{4}$ in. Scale of 300 fathoms.
(In Gipperich, F. Report on the gold mines of the Phila. and N. C. Mining and Smelting Co., Phila., 1847. Fold. at end.)

162. 1847. Sketch D showing the progress of Section 4 (coast and sounds of N. C.), U. S. Coast Survey, 1846-47. $17\frac{1}{2} \times 18$ in. Scale, 1:600,000.
(*In U. S. Coast Survey, Rept. 1847. Wash., 1847. Sketch D.*)
163. 1848. Map of a proposed R. R. from Raleigh by Fayetteville to Cheraw, S. C. Made in 1848, by T. L. O'Sullivan, reduced in 1874 by W. C. $17\frac{1}{2} \times 58\frac{1}{2}$ in. Scale: 2 miles=1 inch. MSS.
(*Off. Sec. of State, N. C.*)
164. 1848. Sketch D showing the progress of Section 4 (coast and sounds of N. C.), U. S. Coast Survey, in 1846-47 & 48. 7×7 in. Scale, 1:600,000.
(*In U. S. Coast Survey, Rept. 1848. Wash., 1848. Sketch D.*)
165. 1849. Map of the surveys for the Western turnpike from Salisbury to the Blue Ridge made under direction of S. Moylan Fox, C. E., 1849. $24\frac{1}{2} \times 49\frac{1}{4}$ in. Scale: $3\frac{1}{2}$ in.=9 miles. MSS.
(*Off. Sec. of State, N. C.*)
166. 1849. Sketch D showing the progress of Section 4 (coast and sounds of N. C.), U. S. Coast Survey, in 1846-7, 8 & 9. $6\frac{3}{4} \times 7$ in. Scale, 1:600,000.
(*In U. S. Coast Survey, Rept. 1849. Wash., 1849. Sketch D.*)
167. 1849. Hatteras inlet. (Harbor of Refuge.) Coast of North Carolina. $16\frac{1}{4} \times 16\frac{1}{4}$ in. Scale, 1:20,000.
(*In U. S. Coast Survey, Rept. 1849. Wash., 1849. Sketch D. No. 4.*)
168. 1849. Sketch of Cape Hatteras and cove for anchorage. $7 \times 7\frac{3}{4}$ in. Scale, 1:20,000.
(*In U. S. Coast Survey, Rept. 1849. Wash., 1849. Sketch D. No. 3.*)
Note: Also published in Rept. for 1850.
169. 1849. Edenton bay, North Carolina. Surveyed in 1849. $10\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:20,000.
(*U. S. W. D.*)
170. 1849. Entrance to Mackay's creek, North Carolina. Surveyed in 1849. $9\frac{3}{4} \times 17\frac{1}{2}$ in. Scale, 1:20,000.
(*U. S. W. D.*)
171. 1850. A map of Maryland and Virginia in 1682. (George Fox's Travels.)
(*In Bowden, James. History of the Society of Friends in America. London, 1850. Fold. facing p. 339.*)
Note: Shows northern part of North Carolina.

172. 1850. A map of the English colonies in North America in 1656.
4 x 7 $\frac{1}{4}$ in.
(*In* Bowden, James. History of the Society of Friends in America. London, 1850. Front.)
Note: Includes what is now North Carolina.
173. 1850. Map of the western turnpike from the Blue Ridge to the Georgia line, made under the direction of S. Moylan Fox, C. E., 1850. 25 $\frac{1}{4}$ x 50 $\frac{3}{4}$ in. MSS.
(*Off. Sec. of State, N. C.*)
174. 1850. A new map of North Carolina, with its canals, roads and distances from place to place along the stage and steamboat routes, published by Thomas, Cowperthwaite & Co., Phila., 1850. 11 x 13 in. Scale: 2 in.=80 miles.
Insets: Parts of Craven and Jones' counties. Gold region.
(*U. S. G. S.*)
175. 1850. Sketch D showing the progress of Section 4 (coast and sounds of N. C.), U. S. Coast Survey, 1845-1850. Published in 1850. 9 $\frac{1}{2}$ x 9 $\frac{1}{2}$ in. Scale, 1:600,000.
(*In* U. S. Coast Survey, Rept. 1850. Wash., 1850. Sketch D.)
176. 1850. Hatteras inlet, North Carolina. 11 x 13 $\frac{1}{2}$ in. Scale, 1:20,000. Chart No. 417.
—— (*In* U. S. Coast Survey, Rept. 1850. Wash., 1850. Sketch D. No. 3.)
—— (*In* U. S. Coast Survey, Rept. 1851. Wash., 1851. Sketch D. No. 3.)
Note: Later issues.
177. 1850. Hatteras shoals, North Carolina. 10 $\frac{3}{4}$ x 11 in. Scale, 1:80,000. Chart No. 416.
—— (*In* U. S. Coast Survey, Rept. 1850. Wash., 1850. Sketch D. No. 4.)
Note: Later issues.
178. 1850. Pasquotank river, North Carolina. 13 $\frac{1}{2}$ x 16 $\frac{1}{4}$ in. Scale, 1:60,000. Chart No. 407.
(*U. S. C. & G. S.*)
Note: Later issues.
179. 1850. Sketch of Beaufort harbor, North Carolina, 1850. 16 $\frac{1}{4}$ x 17 in. Scale, 1:30,000.
(*In* U. S. Coast Survey, Rept. 1850. Wash., 1850. Sketch D. No. 2.)
180. 1850. Sketch showing progress of the survey at Beaufort harbor, North Carolina, in 1850. 7 $\frac{1}{2}$ x 8 in. Scale, 1:60,000.
(*In* U. S. Coast Survey, Rept. 1850. Wash., 1850. Sketch D. No. 5.)

181. 1851. Deep River Mining and Transportation Co.'s coal mines. 8 x $10\frac{1}{2}$ in. Scale: 1000 rods=1 ft.
(In Johnson, W. R. Rept. on the coal lands of the Deep River Mining and Transportation Co. Albany, 1851. Fold. at end.)
182. 1851. Map of a part of North Carolina showing the slack water navigation of Cape Fear and Deep rivers. $9\frac{1}{4}$ x $13\frac{3}{4}$ in. Scale: $2\frac{3}{4}$ in.=50 miles.
(In Johnson, W. R. Rept. on the coal lands of the Deep River Mining and Transportation Co. Albany, 1851. Fold. at end.)
183. 1851. Map of Chatham county, N. C., showing the position of the coal mines on Deep river. $10\frac{1}{4}$ x $14\frac{1}{2}$ in.
(In Johnson, W. R. Rept. on the coal lands of the Deep River Mining and Transportation Co. Albany, 1851. Fold. at end.)
184. 1851. Sketch D showing the progress of Section 4 (coast and sounds of N. C.), U. S. Coast Survey, 1845 to 1851. Published in 1851. $17\frac{3}{4}$ x $20\frac{1}{4}$ in. Scale, 1:600,000.
(In U. S. Coast Survey, Rept. 1851. Wash., 1851. Sketch D.)
185. 1851. Preliminary sketch of Beaufort harbor, North Carolina. $13\frac{1}{4}$ x $16\frac{1}{2}$ in. Scale, 1:20,000.
(In U. S. Coast Survey, Rept. 1851. Wash., 1851. Sketch D. No. 5.)
186. 1851. Sketch D, No. 6, showing the progress of the survey at Cape Fear river and Frying Pan shoals, North Carolina, 1851. 7 x 9 in. Scale, 1:200,000.
(In U. S. Coast Survey, Rept. 1851. Wash., 1851. Sketch D. No. 6.)
187. 1851. Sketch of Frying Pan shoals and Cape Fear river, 1851. $12\frac{1}{4}$ x $14\frac{3}{4}$ in. Scale, 1:120,000.
(In U. S. Coast Survey, Rept. 1851. Wash., 1851. Sketch D. No. 7.)
188. 1852. Map of the Cape Fear and Deep rivers from Fayetteville to Hancock's Mill showing position of the several locks, dams and canals . . . 1852. Executed under . . . William Beverhout Thompson. Drawn by Thomas F. O'Brien. 51 x $108\frac{3}{4}$ in. Scale: 2 inches=1 mile. MSS.
(Off. Sec. of State, N. C.)
189. 1852. Outline map of North Carolina by William D. Cooke. $9\frac{3}{4}$ x 18 in. Printed at the office of the "Southern Weekly Post," Raleigh, N. C., 1852.
(L. C.)

190. 1852. Sketch D showing progress of Section 4 (Albemarle and Pamlico sounds, N. C.), U. S. Coast Survey, 1845 to 1852. 11 x 20 $\frac{1}{4}$ in. Scale, 1: 600,000.
(In U. S. Coast Survey, Rept. 1852. Wash., 1853. Sketch D.)
191. 1852. Reconnaissance of New river and bar, North Carolina. 13 $\frac{1}{2}$ x 16 in. Scale, 1: 15,000.
(In U. S. Coast Survey, Rept. 1852. Wash., 1853. Sketch D. No. 4.)
Note: Also published in 1877.
192. 1852. Sketch D, No. 2 showing progress of survey of Cape Fear and vicinity in Sections Nos. 4 and 5. (Coast of N. C.), 1852. 10 $\frac{1}{4}$ x 11 in. Scale, 1: 400,000.
(In U. S. Coast Survey, Rept. 1852. Wash., 1853. Sketch D. No. 2.)
193. 1852. Sketch of Ocracoke inlet, North Carolina . . . 1852. 13 $\frac{1}{2}$ x 14 in. Scale, 1: 40,000. Chart No. 418.
— (In U. S. Coast Survey, Rept. 1852. Wash., 1853. Sketch D. No. 3.)
194. 1852. Map of Roanoke and Croatan sounds, compiled from maps of H. Bache, and from actual survey by W. B. Franklin, 1852. 27 x 42 $\frac{1}{4}$ in. Scale, 1: 30,000.
(U. S. W. D.)
195. 1852. Reduction of a survey of Cape Fear river, bar and entrance by Maj. Kearney in 1820. 1852. 6 $\frac{1}{2}$ x 7 $\frac{1}{4}$ in. Scale, 1: 100,000.
(U. S. W. D.)
196. 1852. Sketch of Cape Fear river bar and entrance as surveyed in 1733 by Edward Moseley. 1852. 17 x 23 $\frac{1}{2}$ in. Scale, 1: 100,000.
(U. S. W. D.)
197. 1853. Chart of the mines of the McCullock Copper and Gold Mining Company, Wm. R. Singleton, Esq., of Virginia. 8 $\frac{1}{4}$ x 18 $\frac{3}{4}$ in.
(In Jackson, C. T. Report of the McCullock Copper and Gold Mining Co. New York, 1853. Fold. at end.)
198. [1853.] Map of the Jones' mining property. 4 x 7 $\frac{1}{4}$ in. Scale: 2 $\frac{3}{4}$ in.=300 yds.
(In Tyson, P. T. Rept. on the gold deposits and works of the Manteo Mining Company. Baltimore, 1853. Front.)
199. 1853. Map of the Loffin mining property. 4 $\frac{1}{2}$ x 7 $\frac{1}{4}$ in. Scale: 2 $\frac{3}{4}$ in.=300 yds.
(In Tyson, P. T. Rept. on the gold deposits and works of the Manteo Mining Company. Baltimore, 1853. Front.)

200. 1853. Map of the property of the Vanderburg Mining Co., of North Carolina, containing in all 626 acres. $18\frac{1}{2} \times 23\frac{1}{2}$ in. Scale: 20 rods to the inch.
(*In Prospectus of the Vanderburg Mining Co. New York, 1853. Fold. at end.*)
201. 1853. Map of the Russel gold mines. $6\frac{1}{4} \times 7\frac{1}{4}$ in. Scale: $2\frac{1}{2}$ in. = 500 yds.
(*In Tyson, P. T. Rept. on the gold deposits and works of the Perseverance Mining Co. in North Carolina. Baltimore, 1853. Front. Fold.*)
202. 1853. Property of the Aberdeen Company, from a survey by James T. Hodge assisted by John A. Bagley, Sept., 1853. $14\frac{1}{2} \times 18$ in. Scale: 30 rods=1 inch.
(*In Prospectus of the Aberdeen Company. New York, 1854. Fold. at end.*)
203. 1853. Sketch D showing progress of Section 4 (Albemarle and Pamlico sounds, N. C.), U. S. Coast Survey, 1845 to 1853. 13×19 in. Scale, 1:600,000.
(*In U. S. Coast Survey, Rept. 1853. Wash., 1854. Sketch D.*)
204. 1853. Preliminary chart of the entrances to Cape Fear river and New inlet, North Carolina. Published in 1853. $13\frac{1}{2} \times 16\frac{1}{4}$ in. Scale, 1:40,000.
(*In U. S. Coast Survey, Rept. 1853. Wash., 1854. Sketch D. No. 3.*)
205. 1853. Reconnaissance of Hatteras inlet, North Carolina. 1853. $12\frac{1}{2} \times 14$ in. Scale, 1:20,000.
(*In U. S. Coast Survey, Rept. 1852. Wash., 1853. Sketch D. No. 5.*)
206. 1853. Sketch D, No. 2 showing the progress of the survey of Cape Fear and vicinity in Sections Nos. 4 and 5, 1853. $10\frac{3}{4} \times 12\frac{1}{4}$ in. Scale, 1:400,000.
(*In U. S. Coast Survey, Rept. 1853. Wash., 1854. Sketch D. No. 2.*)
207. 1854. Map of the Rhymer property, Rowan county, North Carolina, containing 100 acres. 7×10 in.
(*In Prospectus and By-laws of the Rhymer Gold Mining Company. New York, 1854. Fold. Front.*)
208. 1854. Outline map of North Carolina. Compiled and drawn by G. Schroeter. New York, 1854. $10\frac{1}{4} \times 15$ in.
(*In (Hawks, F. L., supposed author). Hints on the internal improvement of North Carolina. . . N. Y., 1854. Fold. at end.*)

209. 1854. Sketch of Beaufort harbor, North Carolina. From the U. S. Coast Survey of Supt. Bache together with an addition by actual survey from the mouth of Newport river and continued up that river to include Shepherd's Point and Gallant's Point, by W. Beverhout Thompson and T. Abert. 12 x 15 in. Scale: 3 in.=1 stat. mile.

(In Hawks, F. L., *supposed author*. Hints on the internal improvement of North Carolina. N. Y., 1854. Fold. at end.)

210. 1854. Sketch D showing progress of Section 4 (Albemarle and Pamlico sounds, North Carolina), U. S. Coast Survey, 1845 to 1854. Published in 1854. 17½ x 20¼ in. Scale, 1:600,000.

(In U. S. Coast Survey, Rept. 1854. Wash., 1855. Sketch D.)

211. 1854. Beaufort harbor, North Carolina. 21½ x 28¾ in. Scale, 1:20,000. Chart No. 420.

Inset: Sketch of Lookout light.

— (In U. S. Coast Survey, Rept. 1854. Wash., 1855. Sketch D. No. 4.)

Note: Later issues.

212. 1854. Sketch D, No. 2 showing progress of the survey of Cape Fear and vicinity in Sections Nos. 4 and 5, 1854. 10 x 12 in. Scale, 1:400,000.

(In U. S. Coast Survey, Rept. 1854. Wash., 1855. Sketch D. No. 2.)

213. 1854. Wimble shoals, coast of North Carolina, 1854. 7¼ x 8 in. Scale, 1:80,000. Chart No. 415.

— (In U. S. Coast Survey, Rept. 1854. Wash., 1855. Sketch D. No. 3.)

Note: Also published in 1870.

214. 1855. Colton's North Carolina. Published by G. W. and C. B. Colton, New York, 1855. 11 x 13¾ in. Scale: 2 in.=60 miles.

Inset: Beaufort harbor.

(In North Carolina Land Co. Statistical and descriptive account of the several counties of North Carolina. Raleigh, 1869. Fold. Front.)

Note: Other editions, with variations as to size and scale, published in 1861, 1869, 1871, 1873, 1874, 1880. Perhaps others.

215. 1855. Geological map of North Carolina. A new map of the state of North Carolina constructed from actual surveys, authentic public documents and private contributions published

under the patronage of the legislature. $33\frac{1}{4} \times 82$ in. Scale: 5 in.=30 miles.

Note: Prof. Collier Cobb of the University of North Carolina states that the base of this map is Brazier's map of 1833, and that the geological formations were colored by Emmons in 1855.

216. 1855. Map of Albemarle and Chesapeake canal, connecting Chesapeake bay with Currituck, Albemarle and Pamlico sounds and their tributary streams. By Marshall Parks, 1855. 13th Ed. Revised and corrected, 1880. Compiled and drawn by A. Lindenkohl, Washington, D. C. $18\frac{1}{2} \times 27\frac{1}{4}$ in. Scale: 6 in.=40 statute miles.
(*U. S. W. D.*)
Note: Other editions.
217. 1855. Sketch D showing progress in Section No. 4 (Albemarle and Pamlico sounds. North Carolina), U. S. Coast Survey, from 1845 to 1855. $24\frac{1}{2} \times 34$ in. Scale, 1:400,000.
(*In U. S. Coast Survey, Rept. 1855. Wash., 1856. Sketch D.*)
218. 1855. Preliminary chart of Albemarle sound, North Carolina, 1855. $14\frac{1}{2} \times 25$ in. Scale, 1:200,000. Chart No. 408.
— (*In U. S. Coast Survey, Rept. 1855. Wash., 1856. Sketch D. No. 2.*)
Note: Later issues.
219. 1855. Preliminary chart of lower part of Cape Fear river, North Carolina, 1855. $24\frac{1}{4} \times 29\frac{1}{4}$ in. Scale, 1:30,000.
Inset: Sketch of Frying Pan shoals. $8\frac{1}{4} \times 12\frac{1}{2}$ in. Scale, 1:80,000.
(*In U. S. Coast Survey, Rept. 1855. Wash., 1856. Sketch D. No. 3.*)
220. 1855. Topographical survey of Zeek's and a part of Smith's Isl^d. Made under the direction of Capt. D. P. Woodbury, by L. C. Turner, April, 1855. $15 \times 31\frac{1}{4}$ in. Scale: 1 inch=200 ft.
(*U. S. W. D.*)
221. 1856. Map of Gold Hill and vicinity, showing the shafts of the mine and giving the ground plan of the Honeycutt workings. $7 \times 20\frac{1}{4}$ in.
(*In Emmons, Ebenezer. Geological report of the Midland counties of North Carolina. Raleigh and New York, Putnam, 1856. Fold. facing p. 160.*)
222. 1856. Map of Deep River coalfield, North Carolina. 11×25 in.
(*In Emmons, Ebenezer. Geological report of the Midland counties of North Carolina. Raleigh and New York, Putnam, 1856. Fold. at end.*)

223. 1856. Sketch D showing progress in Section No. 4 (coast and sounds of North Carolina), U. S. Coast Survey, from 1845 to 1856. $24\frac{1}{2} \times 34\frac{1}{4}$ in. Scale, 1:400,000.
(*In U. S. Coast Survey, Rept. 1856. Wash., 1856. Sketch D.*)
224. 1856. Cape Fear river from Reeve's Point to Wilmington, North Carolina. $23\frac{1}{2} \times 29\frac{1}{4}$ in. Scale, 1:40,000. Chart No. 425.
(*U. S. C. & G. S.*)
Note: Later issues.
225. 1856. Preliminary chart of lower part of Cape Fear river, North Carolina, from near Federal Point to Wilmington . . . 1856. $24\frac{1}{4} \times 29\frac{1}{2}$ in. Scale, 1:30,000.
Inset: Cape Fear river in the vicinity of Wilmington, 1856. $10\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:20,000.
(*In U. S. Coast Survey, Rept. 1856. Wash., 1856.*)
226. 1856. Preliminary chart of the seacoast of North Carolina from Cape Hatteras to Ocracoke inlet, 1856. $13\frac{1}{4} \times 16$ in. Scale, 1:200,000.
(*In U. S. Coast Survey, Rept. 1856. Wash., 1856.*)
227. 1857. Albemarle and Chesapeake canal connecting Chesapeake bay with Currituck, Albemarle and Pamlico sounds and their tributary streams, by John Lathrop, C. E., 1857. Hosford & Co., New York. $22\frac{1}{4} \times 29\frac{1}{4}$ in.
(*Off. Sec. of State, N. C.*)
228. 1857. Cooke's new map of the state of North Carolina, constructed from actual surveys, private contributions and authentic public documents, procured for the purpose under a special resolution of the General Assembly of the State, by William D. Cooke, A. M. Raleigh, 1857. Engraved, printed and mounted by J. H. Colton & Co., New York. $38\frac{1}{2} \times 60\frac{1}{2}$ in. Scale: 8 miles to an inch.
(*U. S. C. & G. S.*)
229. 1857. Map of Indian localities in North Carolina, 1584. Drawn by G. Schroeter. 4×6 in. Scale: $1\frac{1}{3}$ in.=30 miles.
(*In Hawks, F. L. History of North Carolina. Vol. 1. Fayetteville, 1857. Facing p. 231.*)
230. 1857. Map of the Deep River coalfield.
(*In Emmons, E. Special report . . . concerning the advantages of the valley of the Deep river as a site for the establishment of a national foundry. Raleigh, Holden & Wilson, 1857.*)

231. 1857. Sketch D showing progress in Section No. 4 (coast and sounds of North Carolina), U. S. Coast Survey, from 1845 to 1857. $24\frac{1}{2} \times 33\frac{1}{4}$ in. Scale, 1:400,000.
(In U. S. Coast Survey, Rept. 1857. Wash., 1858. Sketch D. Map No. 25.)
232. 1857. Comparative chart showing changes in the entrance to Beaufort harbor, North Carolina. $14\frac{1}{2} \times 20\frac{1}{4}$ in. Scale, 1:10,000.
(In U. S. Coast Survey, Rept. 1857. Wash., 1858. Map No. 30.)
233. 1857. Preliminary chart of the seacoast of the United States from Cape Hatteras to Ocracoke inlet, and from Cape Lookout to Bogue inlet, North Carolina. Published in 1857. $14\frac{1}{4} \times 35\frac{1}{2}$ in. Scale, 1:200,000.
(In U. S. Coast Survey, Rept. 1857. Wash., 1858. Maps Nos. 26 and 27 on one plate.)
234. 1857. Preliminary survey of Hatteras inlet, North Carolina . . . $13\frac{3}{4} \times 16\frac{3}{4}$ in. Scale, 1:20,000.
(In U. S. Coast Survey, Rept. 1857. Wash., 1858. Map No. 28.)
235. 1857. Preliminary survey of Ocracoke inlet, North Carolina . . . 1857. $13\frac{3}{4} \times 16\frac{3}{4}$ in. Scale, 1:30,000.
(In U. S. Coast Survey, Rept. 1857. Wash., 1858. Map No. 28.)
236. 1858. Map of a part of North Carolina, showing the routes connecting with Deep River district, constructing and proposed. $7\frac{1}{2} \times 9$ in. Scale: $2\frac{1}{2}$ in.=40 miles.
(In Wilkes, Charles. Examination of the Deep River country. U. S. 35th Cong., 2d Sess., 1858. Sen. Doc. No. 26. Fold. facing p. 20.)
—— (In N. C. Gen. Assem. Sess. 1859. Doc. No. 60.)
237. 1858. Map of North Carolina precincts, 1663-1729. $6\frac{3}{4} \times 6\frac{3}{4}$ in. Scale: $1\frac{3}{4}$ in.=50 miles.
(In Fiske, John. Old Virginia and her neighbors. Boston and New York, 1897. Double page. Vol. 2. p. 276.)
—— (In Hawks, F. L. History of North Carolina. Vol. 2. Fayetteville, 1858. Fold. p. 570.)
238. 1858. Map of the Deep River district, North Carolina, by Capt. C. Wilkes, U. S. N., 1858. $12\frac{1}{2} \times 18\frac{1}{2}$ in. Scale: $3\frac{1}{2}$ in.=5 miles.
(In Wilkes, Charles. Examination of the Deep River country. U. S. 35th Cong., 1858. Sen. Ex. Doc. No. 26. Fold. at end.)
—— (In N. C. Gen. Assem. Sess. 1859. Doc. No. 60.)

239. 1858. Map showing the lands and mines of the Cabarrus Gold Mining Company, Cabarrus Co., North Carolina. $13\frac{3}{4} \times 17\frac{1}{2}$ in.
(*In* Brown, James T. Report on property of the Cabarrus Gold Mining Co., 1865. Fold. Front.)
240. 1858. Sketch D showing progress in Section No. 4 (coast and sounds of North Carolina), U. S. Coast Survey, from 1845 to 1858. $24\frac{1}{2} \times 34\frac{1}{4}$ in. Scale, 1:400,000.
(*In* U. S. Coast Survey, Rept. 1858. Wash., 1859. Map No. 10.)
241. 1858. Comparative chart of Cape Fear River bars, North Carolina. $18\frac{3}{4} \times 24\frac{1}{4}$ in. Scale, 1:10,000.
(*In* U. S. Coast Survey, Rept. 1858. Wash., 1859. Map No. 13.)
242. 1858. Comparative chart of New Inlet bar, northern entrance of Cape Fear river, North Carolina. $16\frac{1}{2} \times 21\frac{1}{2}$ in. Scale, 1:10,000.
(*In* U. S. Coast Survey, Rept. 1858. Wash., 1859. Map No. 12.)
243. 1858. Preliminary chart of the seacoast of the United States from Cape Hatteras, N. C., to Cape Lookout, N. C. Published in 1858. $21\frac{1}{2} \times 28$ in. Scale, 1:200,000.
(*In* U. S. Coast Survey, Rept. 1858. Wash., 1859. Map No. 11.)
244. 1859. A geological map of the copper region in the counties of Floyd, Carroll and Grayson, Va., and Ashe and Alleghany counties, N. C. 1859. By Richard O. Currey. $8\frac{3}{4} \times 13\frac{1}{2}$ in. Scale: $6\frac{1}{4}$ miles=1 inch.
(*In* Currey, Richard O. Geological visit to the Virginia copper region. Knoxville, Tenn., 1859. Front. Fold.)
—— (*In* On the Blue Ridge copper region. The Virginias, v. 1 (1880): facing p. 60.)
245. 1859. [Map of western North Carolina.] 20×26 in.
Inset: [Height of Black Mountain peaks].
(*In* Colton, Henry E. Mountain scenery. The scenery of the mountains of western North Carolina. . . Raleigh, 1859. Fold. at end.)
246. 1859. Sketch D showing progress in Section No. 4 (coast and sounds of North Carolina), U. S. Coast Survey, from 1845 to 1859. 25×34 in. Scale, 1:400,000.
(*In* U. S. Coast Survey, Rept. 1859. Wash., 1860. Map No. 15.)

247. 1860. Map of the route of the aqueduct of the Valley River Gold-mining Co., and sketch map—approximate—of the Parker property gold placers. $9\frac{1}{4} \times 18$ in.
(*In Blake, W. P. Report upon the property of the Valley River Gold Co. Min. Mag. Ser. II., v. 1, 1860. Fold. facing p. 466.*)
248. 1860. A new map of the State of North Carolina, by J. L. Hazard. $11\frac{1}{2} \times 14\frac{1}{2}$ in. Scale: 2 in.=70 miles.
(*U. N. C. L.*)
249. 1860? A new map of the state of North Carolina. Constructed from actual surveys, authentic public documents and private contributions. Published under patronage of the legislature. 53×83 in. Scale: 5 in.=30 miles.
(*U. S. C. & G. S.*)
250. 1860. Physikalische Karte des Alleghany-Systems. Nach allen vorhandenen Messungen und Untersuchungen gezeichnet von Ernest Sandoz. $6\frac{3}{4} \times 15\frac{3}{4}$ in. Scale, 1:6,000,000.
Inset: Original Karte der Black Mountains zur Ubersicht der Hohenmessungen von Prof. Arnold Guyot.
(*In Petermann's Mittheilungen, 1860. Tafel 12. Fold. facing p. 284.*)
—— (*In Am. Jour. Sci., Ser. II, v. 31 (1861): Fold. at end.*)
Note: Notice of this map may be found, *Am. Jour. Sci. Ser. II, v. 30 (1860): 392-393.*
251. 1860. Rowan gold and copper mine, Rowan county, North Carolina. $7 \times 7\frac{1}{2}$ in.
(*In Prospectus. Repts. of geologists . . . of the Rowan Gold and Copper Mining Co., Rowan county, North Carolina. Baltimore, Wiley, 1860. Fold.*)
252. 1860. Sketch D showing progress in Section No. 4 (coast and sounds of North Carolina), U. S. Coast Survey, from 1845 to 1860. 24×34 in. Scale, 1:400,000.
(*In U. S. Coast Survey, Rept. 1860. Wash., 1861. Map No. 10.*)
253. 1860. Albemarle sound, North Carolina. Eastern part from the Atlantic Ocean to the Pasquotank river. $27\frac{1}{2} \times 30\frac{1}{2}$ in. Scale: 1:80,000. Chart No. 140.
Inset: Continuation of Alligator river.
Note: Later issues.
254. 1860. Albemarle sound, North Carolina. Western part, from the Pasquotank river to the Roanoke and Chowan rivers. $27\frac{1}{2} \times 30\frac{1}{2}$ in. Scale, 1:80,000. Chart No. 141.
Note: Later issues.

- 255.** 1861. Albemarle sound to Cape Fear, North Carolina, from the U. S. Coast Survey, 1854-7, Admiralty chart No. 267. 24 x $37\frac{1}{2}$ in.

Note: Another issue of this map of same date has insets: Hatteras inlet; Ocracoke inlet.

- 256.** 1861. Birdseye view of North and South Carolina and part of Georgia. (Panorama of the seat of war.) John Bachmann, publisher. 18 x $27\frac{1}{2}$ in.
(S. B. W.)

- 257.** 1861. Colton's new topographical map of the eastern portion of the state of North Carolina with part of Virginia and South Carolina. From the latest and best authorities, published by J. H. Colton, New York, 1861. $25\frac{1}{2}$ x $32\frac{1}{2}$ in. Scale: 8 miles to an inch.

Inset: Plan of the seacoast from Virginia to Florida. $4\frac{3}{4}$ x $25\frac{1}{2}$.

(L. C.)

Note: Also published in 1863.

- 258.** 1861. J. H. Colton's topographical map of North and South Carolina, a large portion of Georgia and part of adjoining states. Published by J. H. Colton, New York, 1861. $17\frac{1}{2}$ x $24\frac{1}{2}$ in. Insets: Beaufort and vicinity; Wilmington and vicinity; Savannah and vicinity; Charleston harbor and its approaches.
(L. C.)

- 259.** 1861. Sketch D showing the progress in Section No. 4 (coast and sounds of North Carolina), U. S. Coast Survey, from 1841 to 1861. $24\frac{1}{2}$ x 34 in. Scale, 1:400,000.

(In U. S. Coast Survey, Rept. 1861. Map No. 11.)

- 260.** 1861. Middle Virginia and North Carolina. Drawn by H. Lindenkohl. 19 x 22 in.
(U. S. C. & G. S.)

- 261.** 1861. North Landing river (head of Currituck sound), Virginia and North Carolina. 16 x 20 in. Scale, 1:40,000. Chart No. 406.

(U. S. C. & G. S.)

Note: Later issues.

- 262.** 1861. Preliminary sketch of a map of the mountains of western Nth. Carolina from the observations of Prof. A. Guyot, drawn under his direction by E. Sandoz, June, 1861. $19\frac{1}{2}$ x 27 in. Scale: 8 miles=1 inch. Chart No. 3013.
(U. S. C. & G. S.)

263. 1861. Sketch of the coast of North Carolina from Oregon inlet to Ocracoke inlet. $14\frac{1}{4} \times 20$ in. Scale, 1:200,000.
(In Bache, A. D. Notes on coast of North Carolina. U. S. Coast Survey, 1861.)
264. 1861. Beaufort harbor, Core sound and Ocracoke inlet, N. C. Compiled in 1861 . . . from surveys by James Kearney and Hartman Bache. $28\frac{1}{4} \times 50$ in. Scale: 1 inch=1 mile.
(U. S. W. D.)
265. 1861. Extract from "A new map of the State of North Carolina constructed from actual surveys, authentic public documents, and private contributions. Published under the patronage of the legislature, 1854 . . ." 20×36 in. Scale: $5\frac{1}{4}$ in.=30 miles.
(Signed, Denis Callahan, November 2, 1861.)
(U. S. W. D.)
Note: West of 5th mer. from Washington.
266. 1862. Sketch D showing progress in Section No. 4 (coast and sounds of North Carolina), U. S. Coast Survey, from 1845 to 1862. $24\frac{1}{2} \times 34$ in. Scale: 1:400,000.
(In U. S. Coast Survey, Rept. 1862. Wash., 1864. Map No. 21.)
267. 1862. Coast of North Carolina and Virginia. Compiled at the Coast Survey office, Feb., 1862. Drawn by A. Lindenkohl. Washington, 1862. $33\frac{1}{2} \times 47\frac{1}{4}$ in.
(U. S. C. & G. S.)
268. 1862. Oregon inlet, North Carolina. $14\frac{3}{4} \times 16\frac{1}{2}$ in. Scale, 1:20,000. Chart No. 414.
— (In U. S. Coast Survey, Rept. 1862. Wash., 1863. Map No. 22.)
Note: Later issues.
269. 1862. Eastern part of North Carolina, from northern boundary of North Carolina to Cape Fear east of Wilmington and Weldon to the Atlantic . . . In 6 sheets. MSS. compiled from various sources.
(U. S. W. D.)
270. 1862. Eastern portion of the military department of North Carolina. Compiled from the best and latest authorities in the Bureau of Top^l Eng^{rs}. War Department by A. Schott. May, 1862. $31 \times 49\frac{1}{2}$ in. Scale: 5 miles to 1 inch.
(U. S. W. D.)
Note: Another issue of same map, same date, has inset: Entrance to Cape Fear river, North Carolina

271. 1862. Map of the battlefield of Roanoke island, Feb. 8, 1862. Drawn by Lieut. Andrews. Scale: 5 in.=600 ft. (Shows Roanoke island, Croatan sound, and Bodies island.)
(*U. S. W. D.*)
272. 1863. [A map of] the States of North and South Carolina. $6\frac{1}{4}$ x 11 in.
(*In Moore, M. B. The Geographical Reader for the Dixie Children. Raleigh, 1863. Between pp. 12 and 13.*)
273. 1863. Atlantic coast of the United States, Cape Hatteras to Mosquito inlet, 1863. $22\frac{1}{2}$ x $26\frac{1}{2}$ in. Scale, 1:1,200,000. Chart No. 3.
—— (*In U. S. Coast Survey, Rept. 1863. Wash., 1864. Map No. 20.*)
Note: Later issues.
274. 1863. Atlantic coast of the United States, Nantucket to Cape Hatteras, 1863. $22\frac{1}{4}$ x $26\frac{1}{2}$ in. Scale, 1:1,200,000. Chart No. 2.
—— (*In U. S. Coast Survey, Rept. 1862. Wash., 1863. Map No. 24.*)
—— (*In U. S. Coast Survey, Rept. 1863. Wash., 1864. Map No. 19.*)
Note: Later issues.
275. 1863. Mountain region of North Carolina and Tennessee. Compiled by W. L. Nicholson, 1863. Drawn by A. Lindenkohl. (Unfinished proof.) 20 x $36\frac{1}{2}$ in. Scale: 1 inch=10 miles.
(*U. S. C. & G. S.*)
276. 1863. [Tracing of western North Carolina.] Copied by Aug. McCafferty, June 23-29, 1863. 19 x 27 in.
(*U. S. W. D.*)
Note: No clue as to original map.
277. 1864. Copy of a map of Cape Fear river and adjoining coast of North Carolina. Made from material furnished by the Coast Survey, and additional information by Lieut.-Col. Shearman. 35 x 87 in. Scale: 4 in.=2 statute miles.
(*U. S. C. & G. S.*)
278. 1864. Core sound and straits, North Carolina, 1864. 19 x 33 in. Scale, 1:40,000. Chart No. 421.
—— (*In U. S. Coast Survey, Rept. 1864. Wash., 1866. Map No. 24.*)
Note: Later issues.
279. 1864. Mouths of Roanoke river, North Carolina. $17\frac{1}{2}$ x $25\frac{3}{4}$ in. Scale, 1:30,000. Chart No. 409.
(*U. S. C. & G. S.*)
Note: Later issues.

280. 1864. Part of North Carolina, showing approaches to Wilmington. Compiled at the Coast Survey office, March, 1864. $27\frac{1}{4} \times 27\frac{1}{4}$ in. Scale: 5 in.=20 miles.
(*U. S. C. & G. S.*)
281. 1864. Reconnaissance of Cape Lookout shoals. 1864. $16\frac{1}{4} \times 19\frac{1}{2}$ in. Scale, 1:80,000.
(*In U. S. Coast Survey, Rept. 1864. Wash., 1866. Map No. 25.*)
282. 1864. Chart. Cape Fear to Wilmington, reduced from Coast Survey charts . . . by Charles K. Graham. $17\frac{1}{2} \times 27$ in. Scale, 1:90,000.
(*U. S. W. D.*)
283. 1864. Portions of Virginia and North Carolina embracing Richmond and Lynchburg, Va., and Goldsboro and Salisbury, N. C. Compiled in the Engineer Bureau, War Department, for military purposes, 1864. $26\frac{1}{2} \times 39\frac{1}{2}$ in. Scale, 1:300,000.
(*U. S. W. D.*)
284. 1864. Topographical map of the country in vicinity of Newberne, N. C. Compiled from various authorities under the direction of Lieut. W. R. King . . . made by Solon Mallis . . . May, 1864. $9\frac{1}{2} \times 12\frac{1}{4}$ in. Scale: $1\frac{1}{4}$ in.=4 miles.
(*U. S. W. D.*)
285. 1865. Bacon's new topographical map of the state of North Carolina with part of Virginia and South Carolina. [London], 1865. Scale: 8 miles to an inch.
Note: From British Museum Catalogue. Not seen.
286. 1865. Bacon's topographical map of North and South Carolina and parts of adjoining States, including Washington, Richmond, Chattanooga and Savannah. London, 1865.
Note: From British Museum Catalogue. Not seen.
287. 1865. Johnson's North Carolina and South Carolina. Published by Johnson and Ward. $15\frac{1}{4} \times 21\frac{1}{4}$ in. Scale: $2\frac{1}{2}$ in.=60 miles.
Inset: Map of Charleston harbor.
(*L. C.*)
288. 1865. Map of part of the states of N. C., S. C., and Tenn. $23 \times 32\frac{3}{4}$ in. Scale: 1 inch=10 miles.
(*U. S. C. & G. S.*)
289. 1865. Military map of southwestern Virginia and North Carolina. $29 \times 29\frac{3}{4}$ in. Scale: 1 inch=10 miles.
(*U. S. C. & G. S.*)

290. 1865. North Carolina and South Carolina. Drawn by A. Lindenkohl, 1865. Washington, 1865. $24\frac{1}{4} \times 34\frac{1}{4}$ in. Scale: 1 inch=10 miles.
(*U. S. C. & G. S.*)
291. 1866. Map intended to illustrate five topographical types of earth surface between Cincinnati and the sea, by J. P. Lesley, 1866. $15\frac{1}{2} \times 17\frac{1}{4}$ in.
(*In Amer. Phil. Soc., Trans. v. 13 (1869): Fold. facing p. 312.*)
Note: Shows Appalachians of North Carolina.
292. 1866. Map of the State of North Carolina, with portions of adjoining states. Published by G. W. & C. B. Colton, New York, 1866. $29\frac{1}{4} \times 56\frac{3}{4}$ in. Scale: 8 miles=1 inch.
Note: Also issued in 1874.
293. 1866. Schönberg's map of the Carolinas. New York, Schönberg & Co., 1866. 11 x 17 in. Scale: 30 English statute miles to 1 inch.
(*L. C.*)
294. 1866. The United States, southern part. From the latest surveys by A. Lindenkohl. $16\frac{3}{4} \times 21$ in. Scale, 1:3,000,000.
(*U. S. W. D.*)
295. 1866. Sketch D showing progress in Section No. 4 (coast and sounds of North Carolina), U. S. Coast Survey, from 1850 to 1866. 20 x 26 in. Scale, 1:400,000.
(*In U. S. Coast Survey, Rept. 1866. Wash., 1869. Map No. 13.*)
296. 1866. Cape Lookout shoals. 1866. $16\frac{1}{4} \times 21\frac{1}{2}$ in. Scale, 1:80,000. Chart No. 419.
—— (*In U. S. Coast Survey, Rept. 1865. Wash., 1867. Map No. 13.*)
Note: Later Issues.
297. 1866. Entrance to Cape Fear river, North Carolina, 1866. 8 x $13\frac{3}{4}$ in. Scale, 1:30,000.
Inset: Frying Pan shoals. 8 x 12 in. Scale, 1:80,000.
(*In U. S. Coast Survey Rept. 1865. Wash., 1867. Map No. 13.*)
298. 1867. A map of Cheraws precinct and parts adjacent. Taken from map in Carroll's Historical Collections of South Carolina. $4\frac{3}{4} \times 7\frac{1}{4}$ in.
(*In Gregg, Alexander. History of the old Cheraws. . . New York, 1867. Front.*)

299. 1867. Map of Dismal Swamp canal, connecting Chesapeake bay with Currituck, Albemarle and Pamlico sounds and their tributary streams, by D. S. Walton, 1867. 16 x 20 $\frac{3}{4}$ in.
(In U. S. 50th Cong., 2d Sess., 1889. Sen. Misc. Doc. No. 89. Fold. facing p. 12.)
300. 1867. Sketch D showing progress in Section No. 4 (coast and sounds of North Carolina), U. S. Coast Survey, from 1845 to 1867. 20 x 25 in. Scale, 1:400,000.
(In U. S. Coast Survey, Rept. 1867. Wash., 1869. Map No. 8.)
301. 1867. Atlantic coast from Cape Hatteras to Cape Romain. [North Carolina and South Carolina.] 28 $\frac{1}{2}$ x 37 in. Scale, 1:400,000. Chart No. 11.
(U. S. C. & G. S.)
Note: Later issues.
302. 1867. General chart of the coast from Cape Henry to Cape Look-out. Published in 1867. 26 $\frac{1}{4}$ x 37 $\frac{1}{4}$ in. Scale, 1:400,000. Chart No. 10.
—— (In U. S. Coast Survey, Rept. 1867. Wash., 1869. Map No. 14.)
Note: Later issues.
303. 1867. Port of Newberne, North Carolina. 1867. 13 $\frac{1}{2}$ x 16 $\frac{1}{2}$ in. Scale, 1:40,000. Chart No. 410.
—— (In U. S. Coast Survey, Rept. 1867. Wash., 1869. Map No. 9.)
Note: Later issues.
304. 1868. Map of Gates county, by W. H. Weatherly and C. A. Nash, 1868. 26 x 38 in. Scale, 1:63,360. MSS.
(Off. of Sec. of State, N. C.)
305. 1868. A map of Halifax county made in pursuance of an order of the Board of Commissioners of said county. 25 $\frac{1}{4}$ x 33 $\frac{1}{4}$ in. Scale: 1 $\frac{1}{2}$ miles to 1 inch. MSS.
(Off. of Sec. of State, N. C.)
306. 1868. Plan shewing the townships and their boundaries in Chowan county. (Not from actual survey.) Prepared and drawn by G. J. Cherry, 1868. 15 x 15 $\frac{1}{2}$ in. Scale: 4 miles to 1 inch. MSS.
(Off. of Sec. of State, N. C.)
307. 1868. Sketch D showing progress of the survey in Section No. 4 (coast and sounds of North Carolina) from 1845 to 1868. 22 $\frac{1}{2}$ x 24 $\frac{1}{2}$ in. Scale, 1:400,000.
(In U. S. Coast Survey, Rept. 1868. Wash., 1871. Map No. 14.)

308. 1869. Map of Franklin county by W. N. Fuller, 1869. Eng. by T. C. Harris. $15\frac{3}{4} \times 22\frac{3}{4}$ in. Scale: 2 miles=1 inch.
(*Off. of Sec. of State, N. C.*)
309. 1869. Map of the northern portion of New Hanover, now known as Pender county, by James & Brown, C. E., 1869. $17\frac{1}{2} \times 25$ in. Scale: 2 miles=1 inch.
(*Off. of Sec. of State, N. C.*)
310. 1869. Sketch D showing progress of the survey in Section No. 4 (coast and sounds of North Carolina), from 1845 to 1869. $21\frac{3}{4} \times 24\frac{1}{2}$ in. Scale, 1:400,000.
(*In U. S. Coast Survey, Rept. 1869. Wash., 1872. Map No. 7.*)
311. 1870. Map of Chatham county, N. C., by Capt. N. A. Ramsey. $15\frac{3}{4} \times 18\frac{3}{4}$ in. Scale: 2 miles to 1 inch. New York, Snyder, Black & Sturn, 1870.
(*Off. of Sec. of State, N. C.*)
312. 1870. Sketch D showing progress of the survey in Section No. 4 (coast and sounds of North Carolina) from 1845 to 1870. $21\frac{3}{4} \times 24\frac{1}{2}$ in. Scale, 1:400,000.
(*In U. S. Coast Survey, Rept. 1870. Wash., 1873. Map No. 6.*)
313. 1870. Albemarle, Croatan and Roanoke sounds . . . $14\frac{3}{4} \times 20$ in. Scale: $4\frac{3}{4}$ in.=10 miles.
(*U. S. W. D.*)
314. 1870. General view of Albemarle, Croatan, Roanoke and Pamlico sounds, incl. of Nag's Head and Cape Hatteras. $4\frac{3}{4} \times 7\frac{1}{2}$ in.
(*U. S. W. D.*)
315. 1870. Map of New Inlet, Federal Point, exhibiting line of proposed work from Smith's to Zeek's island. Surveyed and drawn by order of . . . J. H. Simpson . . . $23\frac{1}{2} \times 27$ in. Scale, 1:10,000.
(*U. S. W. D.*)
316. 1870-71. Comparative map of Shore Head of Smith's island. $22\frac{1}{2} \times 25\frac{1}{4}$ in. Scale: 50 ft. to 1 inch.
(*U. S. W. D.*)
317. 1870-71. Roanoke river, from Weldon to Plymouth, in 6 sheets. Surveyed . . . by Geo. H. Elliott, 1870-71. Scale: 4 inches to 1 mile.
(*U. S. W. D.*)
318. 1871. Geognostische Karte des Alleghany-Systems. Nach den vorhandenen Arbeiten sowie eignen Untersuchungen zusammengestellt von Herman Credner. Die Physikalische Grund-

lage von A. Petermann und E. Sandoz. $9\frac{1}{4} \times 15\frac{3}{4}$ in. Scale, 1:6,000,000.

(In Petermann's Mittheilungen, v. 17, 1871. Tafel III. Fold. facing p. 474.)

319. 1871. Map of the Southern States of North America, 1871. $15\frac{1}{2} \times 25\frac{3}{4}$ in. Scale: $2\frac{1}{4}$ in.=120 English miles.

(In Somers, Robert. The Southern States since the war. London and New York, 1871. Fold. at end.)

320. 1871. Pearce's new map of the State of North Carolina. Compiled from actual, public and private surveys. New York, H. H. Lloyd & Co., 1871. $41\frac{1}{4} \times 61\frac{1}{4}$ in. Scale: 8 miles=1 inch.

Insets: Maps of the United States, and of the world.

(L. C.)

— Without insets. Raleigh, N. C., Pearce & Williams, 1872. 30×120 in. Scale: 8 miles to the inch.

321. 1871. Sketch D showing progress of the survey in Section No. 4 (Pamlico sound, N. C.) from 1845 to 1871. $16\frac{1}{4} \times 25$ in. Scale, 1:400,000.

(In U. S. Coast Survey, Rept. 1871. Wash., 1874. Map No. 6.)

322. 1871. General map of the Cape Fear and Deep rivers. 19×74 in. Scale: 2 miles to 1 inch.

(U. S. W. D.)

323. 1871. Map of Deep river. In 3 sheets, each $20\frac{3}{4} \times 50$ in. Scale: 500 ft. to 1 inch.

(U. S. W. D.)

324. 1871. Map of the Cape Fear river. In 18 sheets, each $20\frac{3}{4} \times 34\frac{1}{4}$ in. Scale: 2000 ft. to 1 inch.

(U. S. W. D.)

325. 1871. Neuse river, North Carolina. In 7 sheets. Scale: $1''=500'$.

(U. S. W. D.)

326. 1872. Edenton bay, N. C. . . by Geo. H. Elliott, 1872. $17 \times 23\frac{3}{4}$ in. Scale: 1 in. to 400 ft.

(U. S. W. D.)

327. 1872. Mouth of Mackay's creek . . . by Geo. H. Elliott. $9\frac{1}{4} \times 10$ in. Scale, 1:20,000.

(U. S. W. D.)

328. 1872. Washington harbor, N. C., 1872. $15 \times 15\frac{3}{4}$ in. Scale, 1:10,000.

(U. S. W. D.)

329. 1873. Map of the High-shoal, Gaston Co., N. C., property, 14,250 acres. $5\frac{1}{2} \times 10\frac{1}{2}$ in. Scale: $1\frac{1}{4}$ in. = 10,000 ft.
(*In Winter, F. Report on the High Shoals property in Gaston county, North Carolina. Fold. Front.*)
330. 1873. Williams' new map of the State of North Carolina. Compiled from actual public and private surveys. $35\frac{1}{2} \times 49\frac{1}{4}$ in. Scale: 8 miles to the inch. Raleigh, N. C., Alfred Williams, 1873.
(*L. C.*)
331. 1873. Sketch D showing progress of the survey in Section No. 4 (Albemarle and Pamlico sounds, N. C.) from 1845 to 1873. $25 \times 34\frac{1}{4}$ in. Scale, 1:400,000.
(*In U. S. Coast Survey, Rept. 1872. Wash., 1875. Map No. 7.*)
—— (*In U. S. Coast Survey, Rept. 1873. Wash., 1875. Map No. 7.*)
332. 1874. Map of Catawba river from the Devil's shoals in Burke county to the State line, from a survey in 1824 by Brazier. 18×33 in. Scale: 2 miles = 1 inch.
(*Off. of Sec. of State, N. C.*)
333. 1874. Map of Warren county, N. C. Surveyed by R. D. Paschall. $19 \times 24\frac{1}{4}$ in. Scale: 6 cm. = 2 miles.
(*S. B. W.*)
Note: A drawing, evidently the original of this map, is in the office of the Sec. of State at Raleigh, N. C.
334. 1874. Plan sketch of the N. C. Gold Amalgamating Company's gold mine, and gold extracting mills, at Gold Hill, Rowan Co., N. C. $8\frac{1}{2} \times 9\frac{1}{4}$ in. Scale: 4 in. = 800 ft.
(*In Cram, T. J. Report upon the mine and mills . . . of the "North Carolina Gold Amalgamating Co." Phila., 1874. Fold. facing p. 8.*)
335. 1874. Map of the R. & G. R. R. from an actual survey. 16×43 in. Scale: 2 miles = 1 inch. MSS.
(*N. C. G. S.*)
336. 1874. Neuse river, North Carolina. 22×31 in. Scale, 1:80,000. Chart No. 144².
(*In U. S. Coast Survey, Rept. 1871. Wash., 1874. Map No. 25.*)
Note: Later issues.
337. 1874. Pamlico river, North Carolina. 7×21 in. Scale, 1:80,000. Chart No. 144¹.
(*U. S. C. & G. S.*)
Note: Later issues.

338. 1874. Old House Channel, Pamlico sound, N. C. Examination made under the direction of Major Wm. P. Craighill . . . by Geo. H. Elliott . . . $23\frac{3}{4} \times 25$ in. Scale, 1:20,000.
(*U. S. W. D.*)
339. 1875. Geological map of North Carolina by W. C. Kerr. $13\frac{1}{2} \times 26$ in. Scale: $2\frac{1}{2}$ in.=50 miles. Base is the map of the U. S. Coast Survey.
(*In Kerr, W. C. Geology of North Carolina. Raleigh, 1875. Vol. 1. Fold. Front.*)
—— (*In North Carolina, Board of Immig., Stat. and Agric. N. C. and its Resources. . . Raleigh, 1876. Fold. Front.*)
340. 1875. Sketch D showing progress of the survey in Section No. 4 (Albemarle and Pamlico sounds, N. C.) from 1845 to 1875. $25\frac{1}{2} \times 27\frac{1}{2}$ in.
—— (*In U. S. Coast Survey, Rept. 1874. Wash., 1877. Map No. 7.*)
—— (*In U. S. Coast Survey, Rept. 1875. Wash., 1878. Map No. 7.*)
341. 1875. Primary triangulation between the Maryland and Georgia base-lines (southern part). $14 \times 22\frac{1}{2}$ in. Scale, 1:1,000,000.
(*In U. S. Coast Survey, Rept. 1874. Wash., 1877. Map No. 9.*)
—— (*In U. S. Coast Survey, Rept. 1875. Wash., 1878. Map No. 9.*)
342. 1875. Catawba river, N. C. From the map of Hamilton Fulton, C. E., made in 1824. To accompany report of Abert, 1875. In 3 sheets, each $2\frac{1}{4} \times 43\frac{1}{4}$ in. Scale: $3\frac{3}{4}$ in.=1 mile.
(*U. S. W. D.*)
343. 1876. Map of east Tennessee and western North Carolina showing mineral deposits in vicinity of Knoxville, Tenn., 1876. Drawn by Charles Waring & Co. $15\frac{3}{4} \times 23\frac{1}{4}$ in. Scale: $4\frac{1}{2}$ in.=50 miles.
(*U. S. G. S.*)
344. 1876. Canal between Neuse and Northeast (Cape Fear) rivers, N. C., in 3 sheets, each 10×16 in. Scale, 1:80,000.
(*In Chief of Eng. Rept., 1876, pt. 1. Fold. facing p. 410.*)
345. 1876. Index map. "A line between the Neuse and Cape Fear rivers in North Carolina with a view to connect the waters of the same. And a like line with a view to connect the waters of Norfolk harbor, in Virginia, with the waters of Cape Fear river, at or near Wilmington, North Carolina."

10 x 16 in. Scale: 1 inch=20 miles. From U. S. Coast Survey chart of 1865.

(*In Chief of Eng. Rept., 1876, pt. 1. Fold. facing 410.*)

— (*In U. S. 44th Cong., 1st Sess., 1876. Sen. Ex. Doc. No. 35.*)

346. 1877. Bertie county, not from actual survey, by Sol. Cherry, Jr., 1877. 13 x 23½ in. Scale: 2 miles to an inch.

(*Off. of Sec. of State, N. C.*)

347. 1877. Map of Rutherford county. Drawn by C. W. Watkins, county surveyor, 1877. 35 x 38 in. Scale: 1 mile to 1 inch. MSS.

(*Off. of Sec. of State, N. C.*)

348. 1877. [Western North Carolina.] Map No. 2. 9 x 9½ in. Scale: ⅓ in.=1 mile.

(*In Western North Carolina Land Company. Norristown, Pa., 1877. Fold. Front.*)

349. 1877. Sketch showing progress of the survey in Section No. 4 (coast and sounds of North Carolina) from 1845 to 1877. 25 x 34½ in. Scale, 1:400,000.

(*In U. S. Coast Survey, Rept. 1876. Wash., 1879. Map No. 9.*)

— (*In U. S. Coast Survey, Rept. 1877. Wash., 1880. Map No. 7.*)

350. 1877. Primary triangulation between the Maryland and Georgia base-lines (southern part). 13½ x 26½ in. Scale, 1:1,000,000.

(*In U. S. Coast Survey, Rept. 1876. Wash., 1879. Map No. 11.*)

— (*In U. S. Coast Survey, Rept. 1877. Wash., 1880. Map No. 9.*)

351. 1878. Anson county, by William A. James, C. E., 1878. 13 x 13½ in. Scale: 2 miles to 1 inch. MSS.

(*Off. of Sec. of State, N. C.*)

352. 1878. Map of Caldwell county, by J. C. Harper, 1878. 17 x 21½ in. Scale: 3 in.=6 miles.

(*Off. of Sec. of State, N. C.*)

353. 1878. Map of North and South Carolina. 8½ x 10¼ in. Scale: 1½ in.=80 miles.

(*In Geography of the South Atlantic and Gulf States, New York, 1878, facing p. 6.*)

354. 1878. Pasquotank county. Copy of original map by H. T. Greenleaf, C. E. Elizabeth City, N. C., 1878. 14 x 39¾ in. Scale: 2½ in.=2½ miles. MSS.

(*Off. of Sec. of State, N. C.*)

355. 1878. Cape Henry to Currituck beach including the Albemarle and Chesapeake canal. 31 x 40½ in. Scale, 1: 80,000. Chart No. 137.
(*U. S. C. & G. S.*)
Note: Later issues.
356. 1878. Currituck sound, N. C. 29 x 63½ in. Scale, 1: 12,000.
(*U. S. W. D.*)
357. 1878. French Broad river, N. C. From Wilson's Fish-Trap, near Brevard, to Smith's Bridge, near Asheville. To accompany report of S. T. Abert . . . Feb. 12, 1878. 25¾ x 44 in. Scale, 1: 48,000.
(*U. S. W. D.*)
358. 1878. Map of the upper portion of Scuppernong river, N. C. 14½ x 34 in. Scale: 5½ in.=1000 ft.
(*U. S. W. D.*)
359. 1878. Neuse river from Goldsboro to Smithfield, N. C. In 2 sheets each 23 x 36 in. Scale: 5 inches=1 mile.
(*U. S. W. D.*)
360. 1878. Plan of Scuppernong river surveyed . . . by John N. McClintock. 30 x 48 in. Scale, 1: 2400.
(*U. S. W. D.*)
361. 1878. Sketch of the Pedee river from the Uwharrie to Cheraw. In 4 sheets each 24½ x 37½ in. Scale: 5 inches=1 mile.
(*U. S. W. D.*)
362. 1878. Survey of the upper and lower portions of Tar river made under direction of Capt. Chas. B. Phillips . . . By W. G. Williamson, 1878. 31 x 35 in. Scale, 1: 12,000.
(*U. S. W. D.*)
363. 1878. Trent river. Examination made under the direction of Captain Charles B. Phillips, 1878, by J. M. Wolbrect. 35 x 48 in. Scale: 5 in.=1 mi.
(*U. S. W. D.*)
364. 1878. Yadkin river, N. C., from Wilkesboro to western North Carolina R. R. bridge near Salisbury. 23½ x 48¾ in. Scale: 1 inch=6000 ft.
(*U. S. W. D.*)
365. 1878-79. Albemarle and Chesapeake, and Dismal Swamp canals with their connecting waters. 18¾ x 27¼ in. Scale, 1: 120,000.
(*U. S. W. D.*)
366. 1878-79. Albemarle and Chesapeake, and Dismal Swamp canals with their connecting waters . . . by Fred^k W. Frost, C. E. 9¼ x 13¾ in. Scale, 1: 240,000.
(*In Chief of Eng. Rept., 1880, pt. 1. Fold. facing p. 896.*)
— (*In U. S. 46th Cong., 2d Sess., 1880. Sen. Doc. No. 73.*)

367. 1878-79. Albemarle and Chesapeake canal. In 4 sheets each $34\frac{1}{2} \times 67$ in. Scale, 1:1200. MSS.
(U. S. W. D.)
368. 1878-79. Currituck sound, North Carolina. $25\frac{3}{4} \times 47$ in. Scale, 1:24,000. MSS.
(U. S. W. D.)
369. 1878-79. Dismal Swamp canal. In 10 sheets each $32\frac{3}{4} \times 56$ in. Scale, 1:1200. MSS.
(U. S. W. D.)
370. 1878-79. General map illustrating the survey of water routes from Norfolk harbor, Va., to the Atlantic Ocean south of Hatteras and to the Cape Fear river, N. C. 14×21 in. Scale, 1:720,000.
(In Chief of Eng. Rept., 1880, pt. 1. Fold. facing p. 896.)
— (In U. S. 46th Cong., 2d Sess., 1880. Sen. Doc. No. 73.)
371. 1878-79. North Landing river, Virginia and North Carolina. Outlet of the Virginia cut of the Albemarle and Chesapeake canal. $24\frac{1}{2} \times 77\frac{1}{4}$ in. Scale, 1:24,000. MSS.
(U. S. W. D.)
372. 1878-79. North river, North Carolina. $20\frac{1}{2} \times 40$ in. Scale, 1:24,000. MSS.
(U. S. W. D.)
373. 1878-79. North river, N. C., from southern terminus of the A. & C. canal to Dixie island. $32\frac{1}{4} \times 62\frac{1}{4}$ in. Scale: 1 inch=500 ft. MSS.
(U. S. W. D.)
374. 1878-79. Pasquotank river, North Carolina. Outlet of the Dismal Swamp canal. $46\frac{3}{4} \times 53\frac{3}{4}$ in. Scale, 1:24,000. MSS.
(U. S. W. D.)
375. 1879. Alamance county, by J. Stafford, 1879. $9 \times 11\frac{3}{4}$ in. Scale: 2 miles=1 inch.
(Off. of Sec. of State, N. C.)
376. 1879. Preliminary post route map of the States of North Carolina and South Carolina with adjacent parts of Georgia, Tennessee, Kentucky, West Virginia and Virginia. Designed and constructed under the orders of Postmaster-General David M. Key by W. L. Nicholson . . . 1879. Four sheets, each $26\frac{1}{2} \times 30\frac{1}{2}$ in. Scale: 8 miles to 1 inch.
(L. C.)

Note: Many other editions have appeared. From 1893 the post route maps have been issued quarterly. They show postoffices with the intermediate distances and mail routes in operation at the various dates of issue.

377. 1879. Sketch showing progress of the survey in Section No. 4 (coast and sounds of North Carolina) from 1845 to 1879. 25 x 34 $\frac{1}{4}$ in. Scale, 1:400,000.
(*In U. S. Coast and Geod. Survey, Rept. 1879. Wash., 1881. Map No. 9.*)
—— (*In U. S. Coast and Geod. Survey, Rept. 1878. Wash., 1881. Map No. 7.*)
378. 1879. Currituck beach to Oregon inlet, North Carolina. 25 $\frac{1}{4}$ x 38 $\frac{3}{4}$ in. Scale, 1:80,000. Chart No. 138.
(*U. S. C. & G. S.*)
Note: Later issues.
379. 1879. Lookout cove, Cape Lookout, North Carolina. 17 $\frac{1}{2}$ x 22 $\frac{1}{4}$ in. Scale, 1:6000. Chart No. 423.
(*U. S. C. & G. S.*)
380. 1879. Primary triangulation between the Maryland and Georgia base-lines (southern part). 14 $\frac{1}{4}$ x 24 $\frac{1}{2}$ in. Scale, 1:1,000,000.
(*In U. S. Coast and Geod. Survey, Rept. 1879. Wash., 1881. Map No. 11.*)
—— (*In U. S. Coast and Geod. Survey, Rept. 1878. Wash., 1881. Map No. 9.*)
381. 1879. Catawba river, North Carolina. In four sheets. Scale: 5 in. = 1 mile. MSS.
(*U. S. W. D.*)
382. 1879. Lockwood's Folly river, North Carolina. Examined under the direction of Capt. Chas. B. Phillips . . . by C. W. Forster . . . 1879. 25 x 38 $\frac{1}{4}$ in. Scale: 5 in. = 1 mile. MSS.
(*U. S. W. D.*)
383. 1879. Map of survey of the portion of Pasquotank river, N. C., in the vicinity of Dismal Swamp canal . . . 1879. 10 x 40 $\frac{1}{2}$ in. Scale: 1 inch = 500 ft. MSS.
(*U. S. W. D.*)
384. 1880. Agricultural map of North Carolina and part of Virginia compiled from personal notes and state and county surveys and correspondence, by W. C. Kerr, 1880. 9 x 14 $\frac{1}{4}$ in. Scale: 100 miles = 3 in.
(*In Kerr, W. C. Outline of physical geography of the state of North Carolina, U. S. 10th Census Rept., v. 6, pt. 2, Wash., 1884. Fold. Front.*)
385. 1880. Carolina Central Railway. Reduced from a map made by J. W. Fry in 1875 to scale of 2 miles = 1 inch. 17 $\frac{1}{2}$ x 124 $\frac{3}{4}$ in.
(*Off. of Sec. of State, N. C.*)

386. 1880. A school map of North Carolina by Collier Cobb. $40\frac{1}{2} \times 127\frac{1}{4}$. Scale: 8 miles to the inch. Fayetteville and Wake Forest College, N. C. 1880.
Inset: Shows flat, hilly and mountainous portions of the state.
Contains notes on climate, botany, minerals and mountain altitudes.
—— Second edition: Fayetteville, N. C., 1880.
—— Third edition: Chapel Hill, N. C., 1881. Revised. Shows topography in detail.
—— Fourth edition: Raleigh, Alfred Williams & Co., 1887. Contains geological map. (*Not seen.*)
—— Fifth edition: Raleigh, 1888.
387. 1880? State map of North Carolina. $22\frac{3}{4} \times 25\frac{1}{4}$ in. "This map is respectfully inscribed to Governor Thomas J. Jarvis . . ." (*N. C. G. S.*)
388. 1880. From Oregon inlet to Cape Hatteras, North Carolina. $25\frac{3}{4} \times 41\frac{3}{4}$ in. Scale, 1:80,000. Chart No. 139.
(*U. S. C. & G. S.*)
Note: Later issues.
389. 1880. Triangulation between the Maryland and Georgia base-lines (southern part). Shows triangulation in western North Carolina. $14\frac{1}{2} \times 24\frac{3}{4}$ in.
(*In U. S. Coast and Geod. Survey, Rept. 1880. Wash., 1882. Map No. 11.*)
390. 1880. Beaufort harbor, N. C. Surveyed . . . by Chas. M. Yeates, 1880. 37×41 in. Scale, 1:7200.
(*U. S. W. D.*)
391. 1880. Cape Fear river, N. C., from Fayetteville to Wilmington. 11 sheets. To accompany report of examination made under the direction of Capt. Chas. B. Phillips . . . by Geo. H. Elliott. 1880. Scale: 500 ft.=1 in.
(*U. S. W. D.*)
392. 1880. Lillington river, N. C. 1880. In 2 sheets each $32\frac{3}{4} \times 51\frac{3}{4}$ in. Scale: 300 ft.=1 inch. MSS.
(*U. S. W. D.*)
393. 1880. Town creek, N. C. $35 \times 54\frac{1}{2}$ in. Scale: 500 ft.=1 inch. MSS.
(*U. S. W. D.*)
394. 1881. Cherokee lands, by Robt. Love, 1820. 18×21 in. Scale: 2 miles=1 inch. MSS.
(*Off. Sec. of State, N. C.*)

395. 1881. Gray's new map of North Carolina and South Carolina. By Frank A. Gray, Phila., O. W. Gray & Son [1881]. $15\frac{3}{4} \times 26$ in. Scale, 1:150,000.
Inset: Charleston harbor and its approaches.
(*L. C.*)
396. 1881. Map showing mineral resources and mines in southwest Virginia and Ashe and Alleghany counties, North Carolina. 19×28 in. Scale: 3 in.=18 miles.
(*In* Boyd, C. R. Resources of Southwest Virginia. . . New York, John Wiley & Sons, 1881. Fold. at end.)
397. 1881. Part of a "Map of the Cherokee country in North Carolina." Surveyed in 1837 and drawn from the returns of the deputy surveyor by R. Deaver. Reduced to scale: 2 miles=1 inch, by T. C. Harris, Dec., 1881. 16×21 in. MSS.
(*Off. Sec. of State, N. C.*)
398. 1881. Sketch showing the progress of the survey in Section No. 4 (coast and sounds of North Carolina) from 1845 to 1881. June 30, 1881. $25 \times 33\frac{1}{4}$ in. Scale, 1:400,000.
— (*In* U. S. Coast and Geod. Survey, Rept. 1880. Wash., 1882. Map No. 9.)
(*In* U. S. Coast and Geod. Survey, Rept. 1881. Wash., 1883. Map No. 9.)
399. 1881. Triangulation between the Maryland and Georgia base-lines (southern part). [Shows triangulation in western North Carolina.] $14\frac{1}{2} \times 25\frac{1}{2}$ in.
(*In* U. S. Coast and Geod. Survey, Rept. 1881. Wash., 1883. Map No. 10.)
400. 1881. Contentnea creek, N. C. Examined under the direction of Captain Chas. B. Phillips . . . by Reid Whitford . . . 1881. Scale: 400 ft.=1 in. [In 3 sheets.] MSS.
(*U. S. W. D.*)
401. 1881. Meherrin river, N. C., from its mouth to Skinner's Bridge, 1881. In 3 sheets each $9\frac{1}{4} \times 46\frac{3}{4}$ in. Scale: 1 in.=300 ft. MSS.
(*U. S. W. D.*)
402. 1882. Map of Columbus county [North Carolina], by A. Kirkland, 1882. $20\frac{1}{2} \times 32\frac{1}{4}$ in. Scale: 1 inch= $2\frac{1}{2}$ miles.
(*L. C.*)
403. 1882. Map of North Carolina by W. C. Kerr, State Geologist, assisted by Capt. Wm. Cain, C. E. Published by the State Board of Agriculture, 1882. Constructed from original surveys and triangulations of the U. S. Coast & Geod. Survey; of Prof. Guyot; of the State Geologist, and of the U. S.

Engineers, and embodying the surveys made by the State from 1820 to date . . . $23\frac{1}{2} \times 52\frac{1}{2}$ in. Scale: 10 miles = 1 inch.

— (In N. C. Dept. of Agric. Hand-book of the State of North Carolina. Raleigh, 1883. Reduced to $10\frac{3}{4} \times 27$ in. Fold. Front.)

404. 1882. Map of North Carolina showing the routes of railroad travel and transportation existing at the end of the year 1882. Printed for this book . . . from plates prepared for Maury's State geography. 8×17 in. Scale: $1\frac{3}{4}$ in. = 50 miles.

Insets: Plan of Raleigh; vicinity of Wilmington; vicinity of Beaufort.

(In Hale, P. M. In the coal and iron counties of North Carolina. Raleigh, 1883. Fold. at end.)

— (In N. C. Dept. of Agric. Hand-book of North Carolina, with map of the State. Raleigh, 1886. Fold. at end.)

405. 1882. Maryland, Virginia and Carolina in 1700. $7 \times 9\frac{1}{2}$ in. Scale: 2 in. = 200 miles.

(In Doyle, J. A. The English in America. . . London, 1882. Fold. Front.)

406. 1882. Physiographical map of North Carolina, by W. C. Kerr, State Geologist. The base is the map of the U. S. Coast Survey. $10\frac{1}{4} \times 26\frac{1}{2}$ in. Scale: 2 in. = 50 miles.

(U. S. G. S.)

407. 1882. Sketch showing progress of the survey in Section No. 4 (coast and sounds of North Carolina) from 1845 to 1882. June 30, 1882. $24 \times 34\frac{1}{4}$ in. Scale, 1:400,000.

(In U. S. Coast and Geod. Survey, Rept. 1882. Wash., 1883. Map No. 5.)

408. 1882. Triangulation between the Maryland and Georgia base-line (southern part.) [Shows triangulation in western North Carolina.] $14\frac{1}{2} \times 24$ in.

(In U. S. Coast and Geod. Survey, Rept. 1882. Wash., 1883. Map No. 6.)

409. 1882. New river, N. C., [from Onslow to the mouth] . . . by J. P. Darling, 1882. In 2 sheets each $31\frac{1}{2} \times 49\frac{1}{2}$ in. Scale, 1:10,000. MSS.

(U. S. W. D.)

410. 1882. Water line between Cape Fear and Waccamaw rivers, N. C. 1882. 25×53 in. Scale, 1:20,000. MSS.

(U. S. W. D.)

411. 1883. Coast and sounds of North Carolina. $5 \times 6\frac{1}{4}$ in. Scale: $1\frac{1}{2}$ in. = 50 miles.

(In Ammen, Daniel. The Atlantic Coast. New York, 1883. Fold. facing p. 163.)

- (In *The Navy in the Civil War. The Atlantic Coast.* London, 1898. Fold. facing p. 163.)
412. 1883. Colton's North Carolina and South Carolina. New York, G. W. & C. B. Colton & Co., 1883. $15\frac{3}{4} \times 25$ in. Scale, 1:267,000.
(*L. C.*)
413. 1883. Map of southwest Virginia. Mineral resources and railway facilities, by C. R. Boyd, C. E. [Includes parts of Ashe and Alleghany counties, N. C.] $20 \times 37\frac{3}{4}$ in. Scale: 3 in.=18 miles.
(*U. S. G. S.*)
414. 1883. Sketch showing progress of the survey in Section No. 4 (North Carolina coast and sounds) from 1845 to 1883. June 30, 1883. 25×34 in. Scale, 1:400,000.
(In *U. S. Coast and Geod. Survey, Rept. 1883.* Wash., 1884. Map No. 5.)
415. 1883. Pamlico sound, North Carolina. Eastern sheet. $28\frac{1}{2} \times 38\frac{1}{4}$ in. Scale, 1:80,000. Chart No. 142.
(*U. S. C. & G. S.*)
Note: Later issues.
416. 1883. Pamlico sound, North Carolina. Middle sheet. $21\frac{1}{2} \times 37\frac{1}{2}$ in. Scale, 1:80,000. Chart No. 143.
(*U. S. C. & G. S.*)
Note: Later issues.
417. 1883. Triangulation between the Maryland and Georgia base-lines (southern part) with extension westward, and triangulation in Tennessee. [Shows triangulation in western North Carolina.] $15 \times 25\frac{1}{2}$ in.
(In *U. S. Coast and Geod. Survey, Rept. 1883.* Wash., 1884. Map No. 6.)
418. 1883. Edenton bay, N. C. Surveyed . . . by George H. Elliott, May, 1883. $19\frac{1}{2} \times 32\frac{1}{4}$ in. Scale, 1:5000.
(In *U. S. 48th Cong., 1st Sess., 1884. Sen. Doc. No. 63.*)
419. 1883. Map of Newport, Clubfoot and Harlowe rivers, N. C., including Clubfoot and Harlowe canal. Surveyed under direction of James Mercur by John P. Darling. 1883. In two sheets, $41 \times 47\frac{1}{2}$ in. Scale, 1:7200. MSS.
(*U. S. W. D.*)
420. 1883. Part of eastern North Carolina showing relative positions of Black and Cape Fear rivers. Jas. Mercur, Capt. of Engineers. 1883. $12 \times 16\frac{3}{4}$ in. Scale: 1 in.=6 mi. MSS.
(*U. S. W. D.*)

421. 1884. Eastern North Carolina, traversed by the Norfolk Southern Railroad and its connecting steamboat lines. 11 x 13½ in.
(In Vaughan, F. E. *The Albemarle Section of North Carolina*. . . New York, 1884. Fold. at end.)
422. 1884. Map of Pasquotank county, North Carolina, with townships, by H. T. Greenleaf, C. E., August, 1884. Compiled from actual surveys. 37 x 46½ in. Scale: 1 mile=1 inch.
Inset: Plan of Elizabeth City. Scale: 400 ft.=1 inch.
(U. S. G. S.)
423. 1884. Map of Randolph county, N. C. Copyrighted 1884 by L. Johnson. 27¼ x 27¼ in. Scale: 1 mile=1 inch.
(L. C.)
424. 1884. Map of Robeson county, N. C., 1884. Made from actual surveys by John McDuffie, C. E. 19 x 25½ in. Scale: 4 in.=8 miles. MSS.
(N. C. S. L.)
425. 1884. Map of Robeson county, made from actual surveys, by John McDuffie. 9 x 12½ in. 2½ in.=10 miles.
(In McEachern, D. P. "All about Robeson county. . ." Lumberton, N. C., 1884. Fold. Front.)
426. 1884. Map of Rowan county, North Carolina. 4¾ x 6¾ in.
(In Wyatt, J. T. *Rowan county and its resources*. Salisbury, N. C., 1895. Fold. facing p. 4.)
427. 1884. Map of the Cape Fear and Yadkin Valley railway, its connections and proposed extensions. (Made and engraved at the State Agricultural Department, Raleigh, from actual and official surveys.) 12 x 12 in. Scale: 1¾ in.=80 miles.
(In Descriptive gazette of the Cape Fear and Yadkin Valley railway. . . Raleigh, 1884. Fold. at end.)
428. 1884. Map of the former territorial limits of the Cherokee "Nation of" Indians, exhibiting the boundaries of the various cessions of land made by them to the colonies and to the United States by treaty stipulations . . . by C. C. Royce, 1884. 27¼ x 30½ in. Scale: 4¼ in.=80 miles.
(S. B. W.)
429. 1884. Map of the Presbytery of Mecklenburg. Prepared by Prof. Collier Cobb expressly for "Historical sketch of Mecklenburg Presbytery," by Rev. W. E. McIlwain. 1½ x 17 in. Scale: 2 in.=30 miles.
(In McIlwain, W. E. *Historical sketch of the Presbytery of Mecklenburg*. Charlotte, N. C., 1884. Fold. at end.)
430. 1884. Map showing location of phosphate beds now known within ten feet of the surface of ground, Duplin and Sampson

- counties, North Carolina. October, 1884. T. C. Harris, del.
 $13\frac{1}{2} \times 15$ in. Scale: 1 mile=1 inch.
(In N. C. Agric. Exper. Station. Ann. Rept., 1884. Raleigh, 1885. Fold. facing p. 74.)
- *(In Penrose, R. A. F. Nature and origin of deposits of phosphate of lime. U. S. Geol. Survey, Bull. 46. Wash., 1888. Facing p. 70.)*
431. 1884. Map showing tertiary geology of the eastern and southern United States. 11×15 in. Scale: 120 miles=1 inch.
(In Heilprin, Angelo. Contributions to the tertiary geology and paleontology of the United States. Phila., 1884. Fold. at end.)
- *(In Acad. Nat. Sci., Phila., Ser. II, v. 9.)*
432. 1884. Wake county, N. C. (From advance sheets of Shaffer's township, school and business map of North Carolina.) Published by Alfred Williams & Co., Raleigh, N. C. $6 \times 6\frac{1}{2}$ in. Scale: 7 miles=1 inch.
(In Wake county, North Carolina. . . Raleigh, 1884. Fold. Front.)
433. 1884. The yellow tobacco belt of North Carolina. 4×11 in.
(In Paul H. V. History of the town of Durham, N. C. . . Raleigh, 1884. Fold. facing p. 158.)
434. 1884. Sketch showing progress of the survey in Section No. 4 (coast and sounds of North Carolina), June 30, 1884. 25×34 in. Scale, 1:400,000.
(In U. S. Coast and Geod. Survey, Rept. 1884. Wash., 1885. Map No. 5.)
435. 1884. Mountain region of North Carolina and Tennessee. Compiled by direction of A. D. Bache, Supt., 1865. Corrected to June 1, 1884. $22\frac{3}{4} \times 35$ in. Scale: 1 inch=10 miles. Chart No. 3008.
(U. S. C. & G. S.)
436. 1884. Triangulation between the Maryland and Georgia base-lines (southern part) with extension westward, and triangulation in Tennessee. [Shows triangulation in western North Carolina.] $15\frac{1}{4} \times 25\frac{3}{4}$ in.
(In U. S. Coast and Geod. Survey, Rept. 1884. Wash., 1885. Map No. 6.)
437. 1884. Map of Cashie river from its mouth to the town of Windsor in Bertie Co., N. C. 1884. $19\frac{1}{2} \times 28\frac{1}{2}$ in. Scale: 1 inch=500 ft. MSS.
(U. S. W. D.)

438. 1885. The area of the mesozoic formation of North Carolina. To illustrate report on the Deep River coalfield by H. M. Chance. $9\frac{1}{2} \times 12$ in. Scale: 10 miles=1 inch.
(*In* Chance, H. M. Report on North Carolina coalfields. Raleigh, 1885. Fold. at end.)
439. 1885. The Deep River coalfield. Outlines taken from the maps of Capt. Wilkes and Prof. Emmons, to illustrate the report of H. M. Chance, 1885. $6 \times 11\frac{1}{2}$ in. Scale: $2\frac{1}{2}$ in.=5 miles.
(*In* Chance, H. M. Rept. on the coalfields of North Carolina. Raleigh, 1885. Fold. at end.)
440. 1885. Map of Bladen county, North Carolina, by John McDuffie and J. F. Gillespie. Published by order of the Board of County Commissioners. $16\frac{1}{2} \times 23\frac{3}{4}$ in. Scale: 5 in.=10 miles.
(*L. C.*)
441. 1885. [Map of North and South Carolina.] Prepared for Industries and Resources of the South. John Letham, publisher, Charleston, S. C. $12 \times 18\frac{1}{2}$ in. Scale: 2 in.=60 miles.
(*In* Letham, John. Historical and descriptive review of the State of North Carolina. Charleston, S. C., 1885. Vol. 1. Fold. at end.)
442. 1885. Map of the lands of High Shoals Mfg. Co., 11,229 acres. To illustrate report of Arthur Winslow on pyrites in North Carolina. $6\frac{1}{4} \times 13\frac{1}{2}$ in. Scale: 1 mile=1 inch. Arthur Winslow, del.
(*In* N. C. Agric. Exp. Station. Ann. Rept., 1885. Raleigh, 1886. Fold. at end.)
443. 1885. Map of the North Carolina and Virginia boundary from the Atlantic Ocean to the Nottaway river, from a re-survey for re-establishing the boundary line of 1728, made under the direction of Gov. Alfred M. Scales, N. C., and Gov. Fitzhugh Lee, Va., by the Boundary Commission . . . Drawn by H. T. Greenleaf, C. E. $12\frac{1}{2} \times 284$ in. Scale: 1 in. to 1200 ft. MSS.
(*Off. Sec. of State, N. C.*)
444. 1885. Map showing the location of the principal gold mines and deposits of pyrites in central North Carolina to illustrate report on pyrites by Arthur Winslow. $8\frac{1}{4} \times 9\frac{1}{2}$ in. Scale: 10 miles=1 inch.
(*In* N. C. Agric. Exp. Station. Ann. Rept., 1885. Raleigh, 1886. Fold. at end.)

445. 1885. Map showing the relation of the mesozoic formation to the Appalachian coalfield. To illustrate report of H. M. Chance. 1885. 9 x 9½ in.
(In Chance, H. M. Report on coalfields of North Carolina. Raleigh, 1885. Fold. at end.)
446. 1885. New railroad and county map of North and South Carolina. Prepared by Henry S. Stebbins, Chicago. 15½ x 21 in. Scale: 2½ in.=60 miles.
(In Letham, John. Historical and descriptive review of the State of North Carolina. Charleston, S. C., 1885. Vol. 2. Fold. at end.)
447. 1885. Shaffer's township map of North Carolina. 2 sheets. Scale: 7 miles=1 inch. Raleigh, A. W. Shaffer, 1885.
Inset: North Carolina elevation.
(L. C.)
448. 1885. Atlantic coast from Cape Henry [Virginia], to Winyaw bay. [South Carolina.] 19 x 27¼ in. Scale: 1:400,000.
(In U. S. Coast and Geod. Survey. Atlantic Coast Pilot, Sub-division 19. Cape Henry to Winyaw Bay. Wash., 1885. Fold. Front.)
Note: Later issues.
449. 1885. Cape Hatteras to Ocracoke inlet, North Carolina. 30½ x 39 in. Scale, 1:80,000. Chart No. 145.
(U. S. C. & G. S.)
Note: Later issues.
450. 1885. Coast from Cape Lookout to Cape Romain. 19 x 27¼ in. Scale, 1:400,000.
(In U. S. Coast and Geod. Survey. Atlantic Coast Pilot, Sub-division 19. Cape Henry to Winyaw Bay. Fold. facing p. 16.)
451. 1885. Triangulation between the Maryland and Georgia base-lines (southern part) with extension westward, and triangulation in Tennessee. [Shows triangulation in western North Carolina.] 15¾ x 25½ in. Scale, 1:1,000,000.
(In U. S. Coast and Geod. Survey, Rept. 1885. Map No. 5.)
452. 1885. Beaufort harbor, N. C. 1885. 8 x 8 in. Scale: 3 in.=1 mile.
(U. S. W. D.)
453. 1885. Preliminary survey of Black river, N. C., from Point Caswell to Lisbon. Scale, 1:12,000.
(U. S. W. D.)
Note: Map based on compass directions and eye-estimated directions.

454. 1886. Kyzer's complete map of Cleveland county, N. C., 1886. By Paul B. Kyzer, T. E. $21\frac{1}{2} \times 23\frac{3}{4}$ in. Scale: $\frac{3}{4}$ of an inch per mile.
(*L. C.*)
455. 1886. Map of Catawba county, North Carolina. Surveyed and drawn by R. A. Yoder, 1886. Published by R. A. Yoder, Newton, N. C. $32 \times 55\frac{1}{2}$ in. Scale: $1\frac{1}{2}$ in. to 1 mile.
(*L. C.*)
456. 1886. Map of New Hanover county, North Carolina. $12 \times 15\frac{3}{4}$ in. Scale: 1 mile = $\frac{1}{2}$ inch.
(*In Wood & McCarthy. Wilmington flora. . . Elis. Mit. Sci. Soc. Jour., v. 3 (1886): Fold. at end.*)
457. 1886. Western North Carolina railroad, mountain division. From surveys made, 1881, under direction of Major J. W. Wilson, by H. Eaton Coleman. Drawn by H. Eaton Coleman. $9\frac{1}{4} \times 13$ in. Scale: $2\frac{3}{4}$ in. = 1 mile.
(*In H., A. H. Asheville, N. C. Asheville, 1886. Fold. Front.*)
458. 1886. Triangulation between the Maryland and Georgia base-lines (southern part) with extension westward, and triangulation in Tennessee. [Shows triangulation in western North Carolina.] $17\frac{1}{2} \times 24\frac{1}{2}$ in.
(*In U. S. Coast and Geod. Survey, Rept. 1886. Wash., 1887. Map No. 5.*)
459. 1886. Cape Fear river entrance. Surveyed by U. S. Coast Survey in 1866, and by H. Bacon in 1886. $7\frac{3}{4} \times 10$ in. Scale: 7 in. = 3 miles.
(*In Chief of Eng. Rept., 1886, pt. 2. Fold. facing p. 1016.*)
460. 1886. Map of a portion of Edenton bay, N. C. $8\frac{1}{2} \times 18$ in. Scale: $\frac{1}{4}$ in. = 700 ft.
(*In Chief of Eng. Rept., 1887, pt. 2. Fold. facing p. 964.*)
461. 1886. Map of the upper portion of Scuppernong river, N. C. 7×18 in. Scale: 3 in. = 1000 ft.
(*In Chief of Eng. Rept., 1886, pt. 2. Fold. facing p. 969.*)
462. 1886. New river, N. C. $4 \times 7\frac{1}{4}$ in. Scale: $1\frac{1}{4}$ in. = 2000 yds.
(*In Chief of Eng. Rept., 1886, pt. 2. Facing p. 992.*)
463. 1886. River basins of southern North Carolina and northern South Carolina. $7\frac{1}{2} \times 10\frac{1}{4}$ in. Scale: $2\frac{1}{2}$ in. = 100 miles.
(*In Chief of Eng. Rept. 1886, pt. 2. Fold. facing p. 973.*)
464. 1887. Geological map of North Carolina. The base is Kerr's map of 1882, revised from the records of the survey by J. A. Holmes, 1887. $13 \times 25\frac{3}{4}$ in. Scale: 2 in. = 50 miles.
(*In Kerr, W. C., and Hanna, G. B. Ores of North Carolina. . . Raleigh, 1893. Fold. Front.*)

465. 1887. Map of Durham county, N. C. Copyrighted 1887 by L. Johnson. $14 \times 25\frac{3}{4}$ in. Scale: 1 mile to the inch.
(*L. C.*)
466. 1887. Map showing the lands of the Eastern Carolina Land, Lumber & Manufacturing Co., situated in Dare county, North Carolina. Prepared by G. W. and C. B. Colton & Co., New York. 9×15 in. Scale, 1:1,267,000.
(*L. C.*)
467. 1887. Shaffer's map of Wake county, N. C. [A. W. Shaffer,] 1887. $14 \times 15\frac{3}{4}$ in. Scale: 3 miles=1 inch.
(*L. C.*)
468. 1887. Map of the Roanoke Navigation & Waterpower Company's canal and other property. $23\frac{1}{2} \times 35$ in. Scale: 800 ft. to 1 inch. [By] Harrison Waite, C. E.
(*N. C. G. S.*)
469. 1887. Triangulation between the Maryland and Georgia base-lines (southern part) with extension westward, and triangulation in Tennessee. [Shows triangulation stations in western North Carolina.] $18\frac{1}{2} \times 24\frac{1}{2}$ in.
(*In U. S. Coast and Geod. Survey, Rept. 1887. Wash., 1889. Map No. 5.*)
470. 1887. Dan river from Madison, N. C., to Danville, Va. $8\frac{1}{2} \times 32$ in. Scale, 1:6000.
(*In Chief of Eng. Rept., 1887, pt. 1. Fold. facing p. 954.*)
471. 1887. Map of Contentnea river, N. C., mouth to Stantonsburg. 6×8 in. Scale, 1:180,000.
(*In Chief of Eng. Rept., 1887, pt. 2. Fold. facing p. 1014.*)
472. 1887. Map of Lockwood's Folly river, N. C., in the vicinity of Mercer's cut. 5×7 in. Scale: 1 in.=150 ft.
(*In Chief of Eng. Rept., 1887, pt. 2. Fold. facing p. 1100.*)
473. 1887. Map of Tar river, N. C. Tarboro to Washington, N. C. 6×8 in. Scale, 1:180,000.
(*In Chief of Eng. Rept., 1887, pt. 2. Fold. facing p. 1012.*)
474. 1887. Map of the lower portion of Lockwood's Folly river, N. C. $7\frac{3}{4} \times 10$ in. Scale: 1 in.=1500 ft.
(*In Chief of Eng. Rept., 1887, pt. 2. Fold. facing p. 1100.*)
475. 1887. Roanoke river, North Carolina, from Weldon to Albemarle sound. $11 \times 32\frac{3}{4}$ in. Scale: 1 inch=2 miles.
(*In Chief of Eng. Rept., 1887, pt. 1. Fold. facing p. 956.*)
476. 1888. Map of western North Carolina and northeast Georgia, showing positions of geological and water divides and peculiar

topography of the western North Carolina mountain region.
 $8\frac{1}{2} \times 19\frac{1}{2}$ in. Scale: 1 inch = 20 miles.

(In Colton, Henry E. Notes on topography and geology of western North Carolina. Am. Inst. Min. Eng. Trans., v. 16 (1888). Fold. facing p. 850.)

477. 1888. State of North Carolina. Board of Education. Ely Smallwood. Hyde county vacant lands. $33\frac{1}{2} \times 71\frac{3}{4}$ in. Scale: 40 chains = 1 inch. Surveyed 1888.

(N. C. G. S.)

478. 1888. Sketch showing progress of the survey in Sections 3 and 4. [North Carolina coast.] June 30, 1888. $15 \times 16\frac{1}{2}$ in. Scale: 1:1,000,000.

Insets: Frying Pan shoals. Bogue sound.

(In U. S. Coast and Geod. Survey Rept., 1888. Wash., 1889. Map No. 5.)

479. 1888. Cape Fear river from entrance to Reeves' Point, North Carolina. $23\frac{1}{2} \times 29\frac{1}{4}$ in. Scale, 1:40,000. Chart No. 424.

(U. S. C. & G. S.)

Note: Later issues.

480. 1888. Core sound to Bogue inlet including Cape Fear, North Carolina. 31×39 in. Scale, 1:80,000. Chart No. 147.

(U. S. C. & G. S.)

Note: Later issues.

481. 1888. Masonboro inlet to Shallotte inlet including Cape Fear, North Carolina. 31×40 in. Scale, 1:80,000. Chart No. 150.

(U. S. C. & G. S.)

Note: Later issues.

482. 1888. New River inlet, North Carolina. $25\frac{1}{4} \times 29\frac{3}{4}$ in. Scale, 1:10,000. Chart No. 422.

(U. S. C. & G. S.)

Note: Later issues.

483. 1888. Neuse river, N. C. In 3 sheets, each 8×12 in. Scale: 2 in. = 2 miles.

(U. S. W. D.)

484. 1884. Roanoke river, North Carolina, from Indian Highland bar to Albemarle sound. $7\frac{3}{4} \times 17$ in. Scale: 1 inch = 2 miles.

(In Chief of Eng. Rept., 1888, pt. 2. Fold. facing p. 842.)

485. 1889. Map of North Carolina including all railroads in operation and construction. Printed by the N. C. Agric. Exp't Station, 1889. $8 \times 10\frac{3}{4}$ in. Scale: 1 in. = 50 miles.

(In Western North Carolina. Historical and Biographical. Charlotte, N. C., 1890. Front.)

486. 1889. Map showing the line of the Cape Fear and Yadkin Valley Railway and its connections. Engraved and printed by G. W. and C. B. Colton & Co., New York. 15 x 18 in. Scale, 1:3,800,000.
(*In The Cape Fear and Yadkin Valley Railway. . . Phila., 1889. Fold. at end.*)
487. 1889. Bogue inlet to Old Topsail inlet, North Carolina. 30 x 39 in. Scale, 1:80,000. Chart No. 148.
(*U. S. C. & G. S.*)
Note: Later issues.
488. 1889. Chart to accompany report of Lieut. Francis Winslow on oyster culture of North Carolina, showing limits of sections, county lines, public and private grounds. $16\frac{3}{4} \times 16\frac{3}{4}$ in. Scale, 1:400,000.
(*In U. S. Coast and Geod. Survey, Bull. 10, Wash., 1889. Fold. at end.*)
489. 1889. Map to accompany report of Lieut. Francis Winslow on oyster culture of sounds and estuaries of North Carolina, showing limits of projections. $7\frac{1}{4} \times 9$ in. Scale, 1:876,000.
(*In U. S. Coast and Geod. Survey, Bull. 10. Wash., 1889. At end.*)
490. 1889. Old Topsail inlet to Cape Fear, North Carolina. $30\frac{1}{2} \times 39$ in. Scale, 1:80,000. Chart No. 149.
(*U. S. C. & G. S.*)
Note: Later issues.
491. 1889. Progress of the survey in Sections 4 and 5. (Showing progress on coast of North Carolina.) June 30, 1889. $9\frac{1}{4} \times 9\frac{3}{4}$ in. Scale, 1:400,000.
(*In U. S. Coast and Geod. Survey, Rept. 1889. Wash., 1890. Map No. 5.*)
492. 1889. Cape Fear river, N. C., from Wilmington to Fayetteville. In 3 sheets each $7\frac{3}{4} \times 12$ in. Scale: 4 in.=2 miles. MSS.
(*U. S. W. D.*)
493. 1889. Map of the middle portion of Shallotte river, N. C. $8\frac{3}{4} \times 11\frac{3}{4}$ in. Scale: $3\frac{1}{2}$ in.=2000 ft.
(*In U. S. 51st Cong., 1st Sess., 1889. House Doc. No. 78.*)
494. 1889. Neuse river, N. C., from New Berne to Smithfield. In three sheets each $5\frac{1}{4} \times 7\frac{3}{4}$ in. Scale: 2 in.=2 miles.
(*In Chief of Eng. Rept., 1889, pt. 2. Facing p. 1058.*)
495. 1889. Northeast (Cape Fear) river, N. C. $6\frac{3}{4} \times 22\frac{1}{4}$ in. Scale: $2\frac{1}{2}$ in.=5 miles.
(*In U. S. 51st Cong., 1st Sess., 1889. House Doc. No. 35.*)

496. 1889. Roanoke river, Va. and N. C., from Clarksville, Va., to Weldon, N. C. $12 \times 37\frac{1}{4}$ in. Scale: $6\frac{3}{4}$ in.=10 miles. MSS.
(*U. S. W. D.*)
497. 1889. Trent river, N. C., from New Berne to Trenton. $5\frac{1}{4} \times 7\frac{3}{4}$ in. Scale: $2\frac{1}{4}$ in.=2 miles.
(*In Chief of Eng. Rept., 1889, pt. 2. Facing p. 1054.*)
498. 1890. Map of Davidsen county, N. C. Copyrighted 1890 by L. Johnson. $25\frac{1}{4} \times 38\frac{1}{4}$ in. Scale: 1 mile to the inch.
(*L. C.*)
499. 1890. Map of the south Appalachian region by J. A. Maher & Co., 1890. Compiled from the maps of the U. S. Geol. Survey and other authentic sources. $53 \times 49\frac{1}{4}$ in. Scale: 5 miles=1 inch.
(*U. S. G. S.*)
500. 1890. Map of the state of North Carolina, with portions of adjoining states. New York, G. W. and C. B. Colton & Co., 1890. Scale: 6 in.=50 miles.
501. 1890. Map showing location of Greensboro, N. C., site of the North Carolina Steel and Iron Company's . . . iron mines at Ore Hill, limestone at Germantown . . . $13\frac{3}{4} \times 13\frac{3}{4}$ in.
(*In Prospectus. The North Carolina Steel and Iron Company, Greensboro, N. C., 1890. Fold. at end.*)
502. 1890. Sketch map of the Dismal Swamp district of Virginia and North Carolina, by N. S. Shaler. $8\frac{1}{4} \times 9\frac{1}{2}$ in. Scale: $\frac{3}{4}$ in.=5 miles. Contour interval, 5 feet.
(*In Shaler, N. S. General account of the fresh-water morasses of the United States. . . U. S. Geol. Survey, 10th Ann. Rept. Wash., 1890. Fold. p. 314.*)
503. 1890. Ocracoke inlet to Beaufort including Core sound, North Carolina. 31×39 in. Scale, 1:80,000. Chart No. 146.
(*U. S. C. & G. S.*)
Note: Later issues.
504. 1890. Progress of the surveys and re-surveys on the coast of North and South Carolina. June 30, 1890. $14\frac{3}{4} \times 18\frac{3}{4}$ in. Scale, 1:400,000.
(*In U. S. Coast and Geod. Survey, Rept., 1890. Wash., 1891. Map No. 11.*)
505. 1890. Contentnea river, N. C., from mouth of river to Stantonsburg. In two sheets, each $4\frac{1}{2} \times 8\frac{1}{2}$ in. Scale: $1\frac{3}{4}$ in.=2 miles.
(*In Chief of Eng. Rept., 1890, pt. 2. Facing p. 1118.*)
506. 1890. Inland waterway between Beaufort and New Berne, N. C. $7\frac{1}{2} \times 12\frac{1}{2}$ in. Scale: 3 in.=2 miles. MSS.
(*U. S. W. D.*)

507. 1890. Map of Lumber river, North and South Carolina. $7\frac{3}{4} \times 15\frac{3}{4}$ in. Scale: 3 in.=5 miles.
(*In Chief of Eng. Rept., 1890, pt. 2. Fold. facing p. 1198.*)
508. 1890. Pamlico and Tar rivers, N. C., from Washington to Tarboro. In two sheets, each $4\frac{1}{2} \times 7\frac{1}{2}$ in. Scale: $1\frac{3}{4}$ in.=25 miles.
(*In Chief of Eng. Rept., 1890, pt. 2. Facing p. 1114.*)
509. 1890. Progress map for 1890. Roanoke river, N. C. Big Rocky bar and Little Rocky bar. $7\frac{1}{2} \times 12\frac{1}{4}$ in. Scale: $2\frac{1}{2}$ in.=500 ft.
(*In Chief of Eng. Rept., 1890, pt. 2. Fold. facing p. 1110.*)
510. 1890. Roanoke river, N. C., from Albemarle sound to Weldon. In two sheets, each $4\frac{1}{2} \times 7\frac{1}{2}$ in. Scale: $1\frac{3}{4}$ in.=5 miles.
(*In Chief of Eng. Rept., 1890, pt. 2. Facing p. 1110.*)
511. 1890. Roanoke river, N. C. Looking Glass bar. $7\frac{1}{2} \times 12\frac{1}{4}$ in. Scale: $1\frac{3}{4}$ in.=800 ft.
(*In Chief of Eng. Rept., 1890, pt. 2. Fold. facing p. 1110.*)
512. 1890. Roanoke river, N. C. Shad Island Bend. $7\frac{1}{2} \times 12\frac{1}{4}$ in. Scale: $1\frac{3}{4}$ in.=800 ft.
(*In Chief of Eng. Rept., 1890, pt. 2. Fold. facing p. 1110.*)
513. 1890. Yadkin river, N. C. In two sheets, each $7\frac{1}{2} \times 12\frac{1}{4}$ in. Scale: $1\frac{3}{4}$ in.=5 miles.
(*In Chief of Eng. Rept., 1890, pt. 2. Facing p. 1164.*)
514. 1891. Areas occupied by the Newark system. $7\frac{1}{2} \times 8\frac{1}{4}$ in. Scale: $3\frac{1}{4}$ in.=300 miles.
(*In Russell, I. C. Correlation Papers. The Newark system, U. S. Geol. Survey, Bull. 85. Wash., 1892. Front. Fold.*)
515. 1891. Map of North and South Carolina. Copyrighted 1891, by Mast, Crowell & Kirkpatrick. $9\frac{1}{2} \times 12\frac{1}{4}$ in. Scale: $1\frac{1}{2}$ in.=60 miles.
(*L. C.*)
516. 1891. Map of Orange county, N. C. Drawn by George W. Tate from actual surveys. Published by George W. Tate,ingham School, N. C. $22\frac{1}{2} \times 38\frac{3}{4}$ in. Scale: $1\frac{1}{2}$ inches to the mile.
(*L. C.*)
517. 1891. Map of Wake county, N. C., showing townships, postoffices and principal public roads, 1891. $6\frac{3}{4} \times 6\frac{3}{4}$ in. Scale: $1\frac{1}{2}$ in.=10 miles.
(*L. C.*)
518. 1891. The Norfolk and Southern Railroad and its commercial tributaries. $9 \times 12\frac{1}{2}$ in.
(*In Haywood, Frank A. The Norfolk & Southern Railroad. . . 1891. Fold. at end.*)

Note: Shows rivers of eastern North Carolina.

519. 1891. Entrance to Mackay's creek, N. C. $7\frac{1}{2} \times 13$ in. Scale: $2\frac{1}{2}$ in.=1000 ft.
(*U. S. W. D.*)
520. 1891. Inland waterway between Beaufort, Swansboro and New river, N. C. $7\frac{3}{4} \times 17\frac{1}{2}$ in. Scale: $3\frac{1}{2}$ in.=5 miles.
(*In Chief of Eng. Rept., 1891, pt. 2. Fold. facing p. 1378.*)
521. 1891. Map 1 to accompany preliminary report on Northwest river, 1891. $7 \times 8\frac{1}{2}$ in. Scale, 1:316,800.
(*In Chief of Eng. Rept., 1891, pt. 2. Fold. facing p. 1322.*)
522. 1891. Map No. 2, Northwest river, Va., and N. C. Examination made Dec., 1890. $17\frac{3}{4} \times 30\frac{3}{4}$ in. Scale, 1:52,000.
(*In Chief of Eng. Rept., 1891, pt. 2. Fold. facing p. 1322.*)
523. 1891. New river, N. C. Ocean to Jacksonville. $7\frac{3}{4} \times 13\frac{1}{2}$ in. Scale: $4\frac{3}{4}$ in.=10 miles. MSS.
(*U. S. W. D.*)
524. 1891. Ocracoke inlet, N. C. Wallace's channel. $8 \times 15\frac{3}{4}$ in. Scale: $3\frac{1}{4}$ in.=10,000 ft.
(*In Chief of Eng. Rept., 1891, pt. 2. Fold. facing p. 1344.*)
525. 1891. Pamlico and Tar rivers, N. C. Tar river above Tarboro. $4\frac{3}{4} \times 7\frac{3}{4}$ in. Scale: $1\frac{3}{4}$ in.=2 miles.
(*In Chief of Eng. Rept., 1891, pt. 2. Facing p. 1348.*)
526. 1891. Pamlico river at and below Washington, N. C. $7\frac{3}{4} \times 21\frac{1}{2}$ in. Scale: $2\frac{3}{4}$ in.=3000 ft.
(*In Chief of Eng. Rept., 1891, pt. 2. Fold. facing p. 1348.*)
527. 1891. Pasquotank river, N. C. Upper portion of river between the ends of Turner's cut. $7\frac{3}{4} \times 13$ in. Scale: $3\frac{1}{2}$ in.=1 mile. MSS.
(*U. S. W. D.*)
528. 1892. Geological map of the southeastern states showing pre-cambrian and crystalline rocks, after McGee and Hitchcock. $4 \times 6\frac{3}{4}$ in. Scale, 1:7,600,000.
(*In Van Hise, C. R. Correlation papers, Archaean and Algonkian, U. S. Geol. Survey, Bull. 86. Wash., 1892. Facing p. 416.*)
529. 1892. Map of North Carolina, issued by the N. C. State Board of Agriculture with corrections to date. Rand, McNally & Co., Chicago, 1892. 8×19 in. Scale: $2\frac{1}{4}$ in.=60 miles.
(*In N. C. Dept. of Agric. Hand-book of North Carolina, with illustrations and map. Raleigh, 1893. Fold. at end.*)
—— (*In N. C. Dept. of Agric. North Carolina and its resources. Winston, 1896. Fold. at end.*)
530. 1892. Map of North Carolina, showing the distribution of iron ores, published by the North Carolina Geological Survey,

1892. $12\frac{1}{4} \times 28$ in. Scale: 1 inch = 20 miles. Base is Kerr's map of North Carolina, 1882.
(In Nitze, H. B. C. Iron ores of North Carolina. N. C. Geol. Survey, Bull. 1. Raleigh, 1893. Fold. at end.)
531. 1892. Lockwood's Folly river, N. C. $7\frac{3}{4} \times 9$ in. Scale: $2\frac{1}{4}$ in. = 3000 ft.
(In Chief of Eng. Rept. 1892. Atlas, Map No. 37.)
532. 1892. Parts of inland waterway between Swansboro and New river, N. C. $7\frac{3}{4} \times 14\frac{3}{4}$ in. Scale: $3\frac{1}{2}$ in. = 5000 ft.
(In Chief of Eng. Rept. 1892. Atlas, Map No. 31.)
533. 1892. Progress map for 1892. Beaufort harbor, N. C. $4\frac{3}{4} \times 7\frac{3}{4}$ in. Scale: $1\frac{1}{2}$ in. = 1500 ft.
(In Chief of Eng. Rept., 1892. Atlas, Map No. 27.)
534. 1892. Progress map for 1892. Beaufort to New river, N. C. Broad Creek shoal. $4\frac{3}{4} \times 7\frac{3}{4}$ in. Scale: 2 in. = 2000 ft.
(In Chief of Eng. Rept., 1892. Atlas, Map No. 29.)
535. 1892. Progress map for 1892. Beaufort to New river, N. C. Sally Bells shoal, 8 miles from Beaufort. $4\frac{3}{4} \times 7\frac{3}{4}$ in. Scale: 2 in. = 1000 ft.
(In Chief of Eng. Rept., 1892. Atlas, Map No. 28.)
536. 1892. Progress map for 1892. Beaufort to New river, N. C. Sanders Creek shoal. $4\frac{3}{4} \times 7\frac{3}{4}$ in. Scale: 2 in. = 5000 ft.
(In Chief of Eng. Rept., 1892. Atlas, Map No. 30.)
537. 1892. Progress map for 1892. Cape Fear river below Wilmington, N. C. Ocean bar 29 miles below Wilmington. $4\frac{3}{4} \times 7\frac{3}{4}$ in. Scale: $1\frac{3}{4}$ in. = 10,000 ft.
(In Chief of Eng. Rept., 1892. Atlas, Map. No. 35.)
538. 1892. Progress map for 1892. Mackay's creek, N. C. $4\frac{3}{4} \times 7\frac{3}{4}$ in. Scale: $2\frac{1}{4}$ in. = 1000 ft.
(In Chief of Eng. Rept., Atlas, Map No. 20.)
539. 1892. Trent river, N. C., from Trenton to Upper Quaker Bridge. Reduced and drawn by P. Brosig. $4\frac{3}{4} \times 7\frac{3}{4}$ in. Scale: $1\frac{3}{4}$ in. = 2 miles.
(In Chief of Eng. Rept., 1892. Atlas, Map No. 25.)
540. 1893. Iron ore deposits of Gaston, Lincoln and Catawba counties. $4 \times 6\frac{3}{4}$ in. Scale: 1 in. = 8 miles.
(In Nitze, H. B. C. Iron ores of N. C. First biennial rept. of the State Geol. Raleigh, 1893. Facing p. 42.)
 ——— *(In Nitze, H. B. C. Iron ores of N. C. N. C. Geol. Survey, Bull. 1. Raleigh, 1893. Facing p. 85.)*
541. 1893. Map of Alamance county, North Carolina. Published by Wm. L. Spoon . . . Burlington, N. C. $31\frac{1}{4} \times 50\frac{3}{4}$ in. Scale: 2 in. to the mile.
(L. C.)

542. 1893. Map of Ore Hill, showing the relations of the iron ore deposits, and the property boundaries of the North Carolina Steel and Iron Co. $5\frac{1}{2} \times 10$ in. Scale: 665 ft.=1 in.
(In Nitze, H. B. C. Iron ores of N. C. First biennial rept. of State Geol. Raleigh, 1893. Facing p. 32.)
 ——— *(In Nitze, H. B. C. Iron ores of North Carolina. N. C. Geol. Survey, Bull. 1. Raleigh, 1893. Facing p. 53.)*
543. 1893. Map of the Cranberry iron mine. $6 \times 9\frac{3}{4}$ in. Scale: 100 ft. to 1 inch. Drawn by C. R. Engelbert.
(In Nitze, H. B. C. Iron ores of North Carolina. N. C. Geol. Survey, Bull. 1. Raleigh, 1893. Fold. facing p. 171.)
544. 1893. Map of the Gaston Mineral Co.'s property near Bessemer City, N. C. $10 \times 12\frac{1}{4}$ in. Scale: 1 in.=2000 ft.
(In Talcott, T. M. R. The Gaston Mineral Co. Richmond, Va., 1893. Fold. at end.)
545. 1893. Map of the Gaston Mineral Co.'s property in Gaston county, N. C. $12\frac{1}{4} \times 21$ in. Scale: 1 in.=2000 ft.
(In Talcott, T. M. R. The Gaston Mineral Co. Richmond, Va., 1893. Fold. at end.)
546. 1893. Map of the principal ore deposits of Ashe county, N. C. $8 \times 8\frac{1}{4}$ in. Scale: $2\frac{3}{4}$ in.=5 miles.
(In Nitze, H. B. C. Iron ores of N. C. First biennial rept. of the State Geol. Raleigh, 1893. Facing p. 48.)
 ——— *(In Nitze, H. B. C. Iron ores of N. C. N. C. Geol. Survey, Bull. 1. Raleigh, 1893. Facing p. 131.)*
547. 1893. Sketch showing location of iron ores near Danbury, N. C. $5 \times 8\frac{1}{2}$ in. Scale: $1\frac{3}{4}$ in.=2 miles.
(In Nitze, H. B. C. Iron ores of N. C. First biennial rept. of the State Geol. Raleigh, 1893. Facing p. 37.)
 ——— *(In Nitze, H. B. C. Iron ores of N. C. N. C. Geol. Survey, Bull. 1. Raleigh, 1893. Facing p. 73.)*
548. 1893. Topographical map of Cranberry, N. C., showing mines, railroads and buildings owned and operated by the C. I. & C. Co. July, 1891. Dec., 1892. J. R. Engelbert, Eng. 9×14 in. Scale: 200 ft.=1 inch.
(In Nitze, H. B. C. Iron ores of N. C. First biennial rept. of State Geol. Raleigh, N. C., 1893. Facing p. 52.)
 ——— *(In Nitze, H. B. C. Iron ores of N. C. N. C. Geol. Survey, Bull. 1. Raleigh, 1893. Facing p. 169.)*
549. 1893. Map of Shears' mines, Randolph county, N. C. $3\frac{1}{2} \times 21\frac{3}{4}$ in. Scale: 1 inch=300 ft.
(With Tilden, H. B. Report on Stafford and Griffin mines, Randolph county, North Carolina, 1893.)

550. 1893. U. S. Geol. Survey. Topographic sheets. Virginia Beach quadrangle, Va.-N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 5 ft.
Note: This sheet was incorporated in the Norfolk sheet in 1894.
551. 1893. Cape Fear river, N. C., below Wilmington. Ocean bar, 29 miles below Wilmington. 7×13 in. Scale: 3 in.=1500 ft.
(In Chief of Eng. Rept., 1893, pt. 2. Fold. facing p. 1428.)
552. 1893. Map of Ocracoke inlet. 11×18 in. Scale: $3\frac{1}{2}$ in.=10,000 feet.
(In Chief of Eng. Rept., 1893, pt. 2. Fold. facing p. 1376.)
553. 1893. New river, N. C. Cedar Bush Marsh cut. 10×14 in. Scale: 3 in.=800 ft.
(In Chief of Eng. Rept., 1893, pt. 2. Fold. facing p. 1402.)
554. 1893. New river, N. C. Vicinity of Wright's island. $11 \times 11\frac{1}{2}$ in. Scale: 3 in.=800 ft.
(In Chief of Eng. Rept., 1893, pt. 2. Fold. facing p. 1402.)
555. 1893. Ocracoke inlet, N. C. Sheet 3. $14\frac{1}{2} \times 18\frac{1}{2}$ in. Scale: $4\frac{1}{4}$ in.=12,000 ft.
(In Chief of Eng. Rept., 1893, pt. 2. Fold. facing p. 1376.)
556. 1894. Map of the southern Appalachians showing the deformed cretaceous peneplain and the areas not reduced to base-level, by C. Willard Hayes and Marius R. Campbell. $7 \times 10\frac{1}{4}$ in. Scale: 1 inch=90 miles.
(In Hayes, C. W., and Campbell, M. R. The Geomorphology of the Southern Appalachians. Nat. Geog. Mag., v. 6, 1894. Fold. facing p. 126.)
557. 1894. Map of the southern Appalachians, showing the deformed tertiary peneplain, and the areas not reduced to base-level, by C. Willard Hayes and Marius R. Campbell. $7 \times 10\frac{1}{4}$ in. Scale: 1 inch=90 miles.
(In Hayes, C. W., and Campbell, M. R. The Geomorphology of the Southern Appalachians. Nat. Geog. Mag., v. 6, 1894. Fold., p. 126.)
558. 1894. Triangulation in the Appalachian region to June 30, 1894. $18 \times 24\frac{1}{4}$ in. Scale: $5\frac{1}{2}$ in.=150 miles.
(In Gannett, Henry. Results of primary triangulation. U. S. Geol. Survey, Bull. 122. Wash., 1894. Fold. facing p. 64.)
559. 1894. Cape Fear river, N. C., below Wilmington. Ocean bar, 29 miles below Wilmington. Surveyed . . . by R. C. Merritt and Frank D. Perry, 1893. $18 \times 32\frac{1}{4}$ in. Scale: $4\frac{3}{4}$ in.=500 ft.
(In Chief of Eng. Rept., 1894, pt. 2. Fold. facing p. 1052.)

560. 1894. Hydrography of Cape Fear river, N. C., at New Snow's Marsh channel. Surveyed and drawn . . . by R. C. Merriitt and F. D. Perry Rodman, 1894. $14 \times 24\frac{1}{2}$ in. Scale: $5\frac{1}{2}$ in.=3000 ft.
(In Chief of Eng. Rept., 1894, pt. 2. Fold. facing p. 1052.)
561. 1894. Map of Tar river, N. C., from Sycamore Cross to below Red Bank shoal . . . by S. F. Burbank, 1894. $9\frac{1}{2} \times 22$ in. Scale: $6\frac{3}{4}$ in.=1000 ft.
(In Chief of Eng. Rept., 1894, pt. 2. Fold. facing p. 1020.)
562. 1894. Ocracoke inlet, N. C. Map of a portion of Teach's Hole—Swash Route. $12 \times 16\frac{1}{4}$ in. Scale: $2\frac{3}{4}$ in.=2000 ft.
(In Chief of Eng. Rept., 1894, pt. 2. Fold. facing p. 1016.)
563. 1894. Ocracoke inlet, N. C., showing current velocity stations, tide gauges and level lines, by E. W. Van C. Lucas, 1893. $13\frac{1}{2} \times 19$ in. Scale: $3\frac{3}{4}$ in.=10,000 ft.
(In Chief of Eng. Rept., 1894, pt. 2. Fold. facing p. 1016.)
564. 1895. Geologic sketch map of western North Carolina showing corundum localities and the distribution of peridotites and related rocks, by J. Volney Lewis, 1895. $8 \times 14\frac{1}{2}$ in. Scale: $2\frac{1}{2}$ in.=30 miles. Boundaries of the Ocoee formation have been supplied by Mr. Arthur Keith of the U. S. Geol. Survey.
(In Lewis, J. V. Corundum and the basic magnesian rocks of western North Carolina. N. C. Geol. Survey, Bull. 11. Winston, 1896. Fold. Front.)
565. 1895. Knoxville sheet. Geologic maps, topographic, areal and economic. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
(In Keith, Arthur. Knoxville folio. Tennessee-North Carolina. Geologic Atlas U. S. No. 16. Wash., 1895.)
566. 1895. Map of Corundum Hill, Macon county, N. C. By J. Volney Lewis, 1895 . . . Contour interval, 10 ft. $4\frac{3}{4} \times 7$ in. Scale: $1\frac{1}{2}$ in.=400 ft.
(In Lewis, J. V. Corundum and the basic magnesian rocks of western North Carolina. N. C. Geological Survey, Bull. 11. Winston, 1896. Facing p. 38.)
567. 1895. Map of Guilford county, N. C. Surveyed by Prof. L. Johnson. Published by D. W. C. Benbow, 1895. $23 \times 26\frac{1}{2}$ in. Scale: 1 inch to the mile.

568. 1895. Map of the Appalachian crystalline belt showing the distribution of peridotites and corundum. By J. V. Lewis, 1895. 4 x 5½ in.
(In Lewis, J. V. Corundum and the basic magnesian rocks of western North Carolina. N. C. Geological Survey, Bull. 11. Winston, 1896. Facing p. 32.)
569. 1895. Map of the Buck Creek corundum mine, Clay county, N. C. By J. Volney Lewis, 1895 . . . 4½ x 7 in. Contour interval, 50 ft. Scale: 1¼ in.=½ mile.
(In Lewis, J. V. Corundum and the basic magnesian rocks of western North Carolina. N. C. Geological Survey, Bull. 11. Winston, 1896. Facing p. 34.)
570. 1895. Map of the South mountain region. 9 x 9 in. Scale: 1 inch =2 miles. Contour interval, 100 ft.
(In Nitze, H. B. C., and Hanna, G. B. Gold deposits of North Carolina. N. C. Geol. Survey, Bull. No. 3. Winston, 1896. Facing p. 152.)
571. 1895. Map of the Webster peridotite area, Jackson county, N. C. By J. Volney Lewis, 1895 . . . 4½ x 7 in. Scale: 1½ in.=2 miles. Contour interval, 100 ft.
(In Lewis, J. V. Corundum and the basic magnesian rocks of western North Carolina. N. C. Geological Survey, Bull. 11. Winston, 1896. Facing p. 36.)
572. 1895? Plan of the Catawba and Broad rivers with their waters and the proposed boundary lines between North and South Carolina. With the latitude as observed in different stations laid down by a scale of 4 miles in an inch, 69½ in one degree of ye Great Circle Vulgo. Statute miles. 7¾ x 14 in.
(In Clark, Walter. State Records of North Carolina. Vol. 11. Winston, 1895. Fold. facing p. 80.)
573. 1895. Atlantic coast, Cape Henry to St. Catherine's sound. 20¼ x 26½ in. Scale, 1:1,200,000.
(In U. S. Coast and Geod. Survey. Atlantic Coast Pilot, Vol. 7. From Chesapeake Bay entrance to Key West. Wash., 1895. Fold. Front.)
574. 1895. Map of Cape Lookout Harbor of Refuge known as Lookout bight. 17½ x 18¼ in. Scale: 3 in.=8000 ft.
(In U. S. 53d Cong., 3d Sess., 1895. House Doc. No. 319.)
575. 1895. Map of upper part of Alligator river, N. C. 11 x 29¼ in. Scale: 3½ in.=2000 ft.
(In U. S. 53d Cong., 3d Sess., 1895. House Doc. No. 297.)

576. 1895. Map showing improvement of the Trent river, N. C. Surveyed by Wm. H. Chadbourn, Jr., 1895. 8 x 39 $\frac{1}{4}$ in. Scale: 4 in.=500 ft.
(*In Chief of Eng. Rept., 1895, pt. 2. Fold. facing p. 1318.*)
577. 1895. Northeast (Cape Fear) river, N. C., from the Old County ferry to Juniper swamp or creek . . . 12 $\frac{1}{4}$ x 34 $\frac{1}{4}$ in. Scale: 4 in.=1000 ft.
(*In U. S. 53d Cong., 3d Sess., 1895. House Doc. No. 322.*)
578. 1895. Ocracoke inlet, N. C., showing inner shoals and location of cut 5450 ft. long. 13 x 19 in. Scale: 2 $\frac{1}{2}$ in.=13,000 ft.
(*In Chief of Eng. Rept., 1895, pt. 2. Fold. facing p. 1310.*)
579. 1896. Carolina drainage map. 5 x 8 in. Scale: 1 $\frac{3}{4}$ in.=20 miles.
(*In U. S. Geol. Survey, 18th Ann. Rept., 1896, pt. 4. Wash., 1897. Facing p. 48.*)
580. 1896. Map of Burke county and upper Catawba valley. 9 x 9 $\frac{1}{2}$ in. Scale: $\frac{3}{4}$ in.=4 miles.
(*In Ervin, W. C. Catawba Valley and Highlands, Burke county, western North Carolina. Morganton, N. C., 1896. Fold. Front.*)
581. 1896. Map of North Carolina, showing distribution of principal geological formations. 4 $\frac{1}{4}$ x 4 $\frac{1}{4}$ in. Scale: 60 miles to 1 inch.
(*In N. C. Dept. of Agric. North Carolina and its resources. Winston, M. I. and J. C. Stewart, 1896. Facing p. 68.*)
582. 1896. Map of the Gold Hill district, from a survey by E. Hausser, 1860. Revised, 1882. 4 $\frac{3}{4}$ x 8 in. Scale: 1 inch=1320 ft.
(*In Nitze and Hanna. Gold deposits of North Carolina. N. C. Geol. Survey, Bull. 3. Winston, 1896. Facing p. 86.*)
—— (*In Nitze and Wilkins. Gold mining in North Carolina. . . N. C. Geol. Survey, Bull. 10. Raleigh, 1897. Facing p. 58.*)
583. 1896. Map of Virginia, Maryland, North and South Carolina, to accompany Weeks' Southern Quakers and Slavery. 13 x 14 $\frac{1}{4}$ in. Scale: 40 miles to 1 inch.
(*In Weeks, S. B. Southern Quakers and Slavery. . . Baltimore, 1896. Fold. at end.*)
584. 1896. Preliminary map showing location of principal gold deposits in North Carolina, from the records of the State Geological Survey, 1896. 8 x 32 in. Scale: 25 miles=1 inch.
(*In Nitze, H. B. C., and Hanna, G. B. Gold deposits of North Carolina. N. C. Geol. Survey, Bull. 3. Winston, 1896. Fold. Front.*)
585. 1896. Triangulation between Atlanta and Mobile, with sub-sketch of eastern Tennessee and western North Carolina. 16 $\frac{1}{2}$ x 21 in. Scale, 1:1,000,000.
(*In U. S. Coast and Geod. Survey, Rept., 1896. Pt. 1. Wash., 1896. Map No. 14.*)

586. 1896. Cape Fear river, N. C. Profile of approximate low water surface from ocean to confluence of Deep and Haw rivers . . . $16 \times 38\frac{3}{4}$ in.
(*In U. S. 54th Cong., 1st Sess., 1896. House Doc. No. 65.*)
587. 1896. Cross rock shoal, Lockwood's Folly river, N. C. Surveyed . . . by Robt. C. Merritt, 1895. Drawn by Chas. Humphreys. $12 \times 36\frac{1}{4}$ in. Scale: 4 in.=500 ft.
(*In Chief of Eng. Rept., 1896, pt. 2. Fold. facing p. 1142.*)
588. 1896. Lockwood's Folly river, N. C. Surveyed . . . by Robt. C. Merritt, 1895. Drawn by Chas. Humphreys. $11\frac{3}{4} \times 27$ in. Scale: $4\frac{1}{4}$ in.=500 ft.
(*In Chief of Eng. Rept., 1896, pt. 2. Fold. facing p. 1142.*)
589. 1896. Map showing the location of the Dismal Swamp canal, Virginia and North Carolina. $12\frac{1}{2} \times 36\frac{1}{4}$ in. Scale, 1:96,000.
(*In U. S. 54th Cong., 1st Sess., 1896. House Doc. No. 317.*)
590. 1896. Ocracoke inlet, N. C. Drawn by W. H. Chadbourn, Jr. $7\frac{1}{2} \times 18\frac{3}{4}$ in. Scale: 4 in.=1500 ft.
(*In Chief of Eng. Rept., 1896, pt. 2. Fold. facing p. 1098.*)
591. 1896. Sea bar, Baldhead channel, Cape Fear river, N. C. Surveyed . . . by Chas. Humphreys and Robt. C. Merritt, 1896. $11\frac{1}{2} \times 22\frac{1}{2}$ in. Scale: $6\frac{1}{2}$ in.=3500 ft.
(*In Chief of Eng. Rept., 1896, pt. 2. Fold. facing p. 1138.*)
592. 1896. Snow's Marsh channel, Cape Fear river, N. C. Surveyed . . . by Chas. Humphreys and Robt. C. Merritt, 1896. $13\frac{3}{4} \times 24\frac{3}{4}$ in. Scale: $4\frac{3}{4}$ in.=3500 ft.
(*In Chief of Eng. Rept., 1896, pt. 2. Fold. facing p. 1138.*)
593. 1897. Map showing the location of the principal geological formations in North Carolina. 1897. $3\frac{1}{2} \times 8\frac{3}{4}$ in. Scale: $1\frac{3}{4}$ in.=75 miles.
(*In Ries, Heinrich. Clay deposits and clay industry in North Carolina. N. C. Geological Survey, Bull. 13. Raleigh, 1897. Facing p. 44.*)
Published also in Bulletins 17, 19 and Economic Papers 3 and 4.
594. 1897. Railroad Commissioners' map of North Carolina, 1897. Prepared by H. C. Brown. $21\frac{3}{4} \times 42\frac{1}{2}$ in.
595. 1897. Bogue inlet, N. C., and immediate vicinity inside. $17\frac{1}{4} \times 22\frac{1}{2}$ in. Scale: 750 ft. to an inch.
(*In U. S. 54th Cong., 2d Sess., 1897. House Doc. No. 316.*)
596. 1897. Cape Fear river, N. C., above Wilmington. $21 \times 27\frac{1}{4}$ in. Scale: 2 in.=2 miles.
(*U. S. W. D.*)

597. 1897. Chart of the coast from Cape Hatteras to New River inlet, showing proposed breakwater at Cape Lookout, N. C. 16 x 22½ in. Scale: 3 in.=70,000 ft.
(*In Chief of Eng. Rept., 1897, pt. 2. Fold. facing p. 1432.*)
598. 1897. Hydrography of Cape Fear river, N. C., at Ocean Bar channel. Surveyed . . . by Chas. Humphreys, S. F. Burbank and R. C. Merritt. 9 x 28½ in. Scale: 4¼ in.=3000 ft.
(*In Chief of Eng. Rept., 1897, pt. 2. Fold. facing p. 1416.*)
599. 1897. Hydrography of Cape Fear river, N. C., at Snow's Marsh channel. Surveyed . . . by Chas. Humphreys, S. F. Burbank and R. C. Merritt. 9 x 26½ in. Scale: 4¼ in.=3000 ft.
(*In Chief of Eng. Rept., 1897, pt. 2. Fold. facing p. 1416.*)
600. 1897. Ocracoke inlet, N. C. 16 x 22 in. Scale: 4¼ in.=10,000 ft.
Inset: Ocracoke bar.
(*In U. S. 55th Cong., 1st Sess., 1897. House Doc. No. 7. Fold. at end.*)
601. 1898. Map of Forsyth county, North Carolina, 1898. 6¾ x 8½ in. Scale: 1 in.=3 miles.
(*In Fries, Adelaide L. Forsyth county. Winston, Stewart's Printing House, 1898. Fold. Front.*)
(*S. B. W.*)
602. 1898. Map of North Carolina. Scale: 3 in.=90 miles.
(*In Cobb, Collier. Geography of North Carolina. New York, 1898. pp. 2-3.*)
603. 1898. Map showing the location of the canals and water-powers on the Roanoke river near Weldon, N. C. 8½ x 9¾ in. Scale: 1½ in.=1 mile. Contour interval, 20 feet.
(*In Swain, Holmes and Myers. Papers on the water-power in North Carolina. N. C. Geol. Survey, Bull. 8. Raleigh, 1899. Fold. facing p. 95.*)
604. 1898. Map showing the supposed line between Virginia and the western territory of North Carolina from 1772 to 1779 and the two Tennessee settlements on either side of said line in 1772; and also the limits of the several private purchases—from the Indians, by the Watauga settlers, Jacob Brown, and Carter and Lucas in 1775. 4¼ x 5¾ in. Scale: 3½ in.=50 miles.
(*In The Watauga Association. Am. Hist. Mag., v. 3 (1898): 103.*)
605. 1898. Topographic map of the Yadkin river between the mouth of Uharie river and Abbott's creek, by C. E. Cooke and W. L. Miller of the U. S. Geol. Survey for the N. C. Geol. Survey.

8 x 19 in. Scale: 2666 $\frac{2}{3}$ ft. to 1 inch. Interval between contour lines, 10 ft.

(*In Swain, Holmes and Myers. Papers on the water-power in North Carolina. N. C. Geol. Survey. Raleigh, 1899. Facing p. 181.*)

606. 1899. County and river map of western North Carolina and eastern Tennessee showing boundaries of proposed National Park and Forest Preserve as adopted by the Appalachian National Park Association, Dec. 19, 1899. Drawn by Dr. C. P. Ambler. 4 $\frac{3}{4}$ x 7 $\frac{3}{4}$ in. Scale: 7 miles=1 inch.

(*In Powell, G. S. Memorial to the Congress of the United States from the Appalachian National Park Association. Southern Pictures and Pencilings, v. 2, No. 3, 1900.*)

607. 1899. Hydrographic map of North Carolina. 8 x 21 $\frac{1}{2}$ in. Scale: 25 miles=1 inch.

(*In Swain, Holmes and Myers. Papers on the water power in North Carolina. N. C. Geol. Survey, Bull. 8. Raleigh, 1899. Fold. Front.*)

608. 1899. [Map of] North Carolina, 1861-65. (From official War Records Atlas.) 8 $\frac{1}{4}$ x 20 $\frac{1}{2}$ in.

(*In Confederate Military History. Vol. 4. Atlanta, Ga., 1899. Fold. facing p. 286.*)

609. 1899. North Carolina, prepared especially for the Mercantile Guide and Bureau Co. 8 $\frac{1}{4}$ x 10 $\frac{3}{4}$ in. Scale: 2 $\frac{1}{2}$ in.=80 miles. Inset: Western part.

(*L. C.*)

610. 1899. Oyster chart of Newport and North rivers, North Carolina, reduced from the U. S. C. & G. S. Charts in 1899 . . . 20 $\frac{1}{4}$ x 29 $\frac{3}{4}$ in. Scale: 4 $\frac{3}{4}$ in.=2 nautical miles.

(*In U. S. Commission of Fish and Fisheries. Rept. for year ending 1903. Wash., 1905. Fold. facing p. 342.*)

611. 1899. U. S. Geol. Survey. Topographic sheets. Yadkinville quadrangle, N. C. 14 $\frac{1}{4}$ x 17 in. Scale, 1:125,000. Contour interval, 100 ft.

Note: First issue 1893.

612. 1899. Cape Fear river, N. C. Snow's Marsh shoal, 21 miles below Wilmington. Surveyed under the direction of Capt. W. E. Craighill, by R. C. & B. A. Merritt, July 27-Aug. 18, 1898. 11 $\frac{1}{2}$ x 20 $\frac{1}{4}$ in. Scale: 2 $\frac{3}{4}$ in.=2500 ft.

(*In Chief of Eng. Rept., 1899, pt. 2. Appendix M 14. Facing p. 1514.*)

613. 1899. Chart of Lookout bight, N. C., showing proposed Harbor of Refuge. 22 x 34 in. Scale, 1:10,000.

(*In U. S. 56th Cong., 1st Sess., 1899. House Doc. No. 80. Fold. facing p. 4.*)

614. 1899. Chart of the coast from Cape Hatteras to New River inlet, showing proposed breakwater at Cape Lookout, N. C. $15\frac{3}{4}$ x $23\frac{1}{4}$ in. Scale: 3 in.=70,000 ft.
(In U. S. 56th Cong., 1st Sess., 1899. House Doc. No. 80. Fold. at end.)
615. 1899. Map of Beaufort entrance and harbor, North Carolina. From survey under the direction of Capt. E. W. Van C. Lucas, June, 1899. By S. F. Burbank. $8\frac{3}{4}$ x $17\frac{3}{4}$ in. Scale: $2\frac{1}{2}$ in.=7000 ft.
(In Chief of Eng. Rept., 1899, pt. 2. Appendix M 8. Facing p. 1498.)
616. 1899. Map of Sea bar, Cape Fear river, N. C. Surveyed under direction of Captain E. W. Van C. Lucas, by R. C. and B. A. Merritt, May 10 to June 24, 1899. $11\frac{1}{4}$ x $13\frac{1}{2}$ in. Scale: $2\frac{1}{4}$ in.=4010 feet.
(In Chief of Eng. Rept., 1899, pt. 2. Appendix M 14. Facing p. 1514.)
617. 1900. Approximate lines of equal magnetic declination, North Carolina, 1750, 1800, 1850 and 1900. $9\frac{1}{2}$ x $3\frac{3}{4}$ in. Scale: 25 miles=1 inch.
(In Baylor, J. B., and Hazard, D. L. General report of magnetic survey of North Carolina. U. S. Coast and Geod. Survey, Rept., 1899. Appendix No. 9. Wash., 1900. Facing p. 920.)
618. 1900. Approximate lines of equal magnetic declination, North Carolina, 1900. $15\frac{1}{2}$ x $15\frac{3}{4}$ in. Scale: 25 miles=1 inch.
(In Baylor, J. B., and Hazard, D. L. General report of magnetic survey of North Carolina. U. S. Coast and Geod. Survey, Rept., 1899. Appendix No. 9. Wash., 1900. Fold., p. 887.)
619. 1900. Karte von Nord-Carolina. 6 x 9 in.
(In Nord-Carolina und was es dem Einwanderer anzubieten hat. Leipzig, 1900. p. 115.)
620. 1900. Map of North Carolina in 1783 showing counties, towns and principal roads. Drawn by E. W. Myers. 9 x $17\frac{1}{2}$ in. Scale: 2 in.=50 miles.
Inset: Western North Carolina.
(In Clark, Walter. The State Records of North Carolina. . . Vol. 18. Goldsboro, N. C., 1900. Fold. facing p. 496.)

621. 1900. Map showing location of peridotite rocks and corundum localities in North Carolina and Georgia, by Joseph Hyde Pratt, 1900. $7\frac{3}{4} \times 8$ in. Scale: $1\frac{1}{4}$ in.=30 miles.
 (In Pratt, J. H. Occurrence and distribution of corundum in the United States. U. S. Geol. Survey, Bull. 180. Wash., 1901. Facing p. 54.)
 — (In Pratt, J. H. Corundum and its occurrence and distribution in the United States. U. S. Geol. Survey, Bull. 269. Wash., 1906. Facing p. 126.)
622. 1900. Railroad map of North Carolina, 1900. Prepared by H. C. Brown. $21\frac{1}{4} \times 54\frac{1}{4}$ in. Scale: 9.5 miles=1 inch.
 (L. C.)
Note: Also issued in 1902.
623. 1900. Tunison's new railroad, distance and township map of North Carolina and South Carolina from latest official reports. 28×48 in. Scale: $3\frac{3}{4}$ in.=32 miles. Atlanta and Cincinnati, H. C. Tunison, 1900.
 (L. C.)
Note: Also issued in 1902, 1905, 1906.
624. 1900. Atlantic coast, Cape Sable to Cape Hatteras. 32×40 in. Chart No. 1000.
 (U. S. C. & G. S.)
Note: Later issues.
625. 1900. Cape Fear river, N. C. Snow's Marsh shoal, $2\frac{1}{2}$ miles below Wilmington. Surveyed under direction of Capt. E. W. Van C. Lucas, by Chas. Humphreys and B. A. Merritt. 9×29 in. Scale: $5\frac{1}{4}$ in.=2500 feet.
 (In Chief of Eng. Rept., 1900, pt. 3. Appendix N 14. Facing p. 1822.)
626. 1900. General map showing proposed 16 feet inland waterway between South Mills and Beaufort inlet, with outlets to Atlantic Ocean at Ocracoke and Beaufort inlets. Copied . . . from map submitted by Capt. C. B. Phillips . . . $14\frac{1}{4} \times 16\frac{1}{4}$ in. Scale, 1:720,000.
 (In U. S. 56th Cong., 1900. House Doc. No. 202. Fold. facing p. 24.)
627. 1900. Harbor at Newbern, North Carolina, showing approved harbor lines. 11×26 in. Scale: $4\frac{1}{2}$ in.=2500 ft.
 (In Chief of Eng. Rept., 1900, pt. 3. Fold. facing p. 1838.)
628. 1900. Map of Cape Fear river in vicinity of Wilmington shoal . . . 12×21 in. Scale: 4 in.=500 ft.
 (In Chief of Eng. Rept., 1900, pt. 3. Fold facing p. 1822.)

- 629.** 1900. Map of Wilmington harbor, North Carolina, showing proposed anchorage basin. $18\frac{3}{4}$ x 47 in. Scale: $4\frac{1}{2}$ in.=2000 feet.
(*In U. S. 56th Cong., 2d Sess., 1900. House Doc. No. 180. Fold. at end.*)
- 630.** 1900. Sea bar, Baldhead entrance, Cape Fear river, North Carolina. Surveyed . . . by Chas. Humphreys and Robt. C. Merritt, 1900. 9 x 35 in. Scale: $5\frac{1}{2}$ in.=2500 ft.
(*In Chief of Eng. Rept., 1900, pt. 3. Fold. facing p. 1822.*)
- 631.** 1901. Soil map. North Carolina. Clayton sheet. $22\frac{3}{4}$ x $27\frac{1}{4}$ in. Scale: 1 inch=1 mile. Soils surveyed by W. G. Smith, 1900.
(*With U. S. Dept. Agric. Field operations. Bureau of soils, 2d Rept. Wash., 1901.*)
- 632.** 1901. Soil map. North Carolina. Kinston sheet. $18\frac{3}{4}$ x 25 in. Scale: 1 inch=1 mile. Soils surveyed by W. G. Smith, 1900.
(*With U. S. Dept. Agric. Field operations. Bureau of soils, 2d Rept. Wash., 1901.*)
- 633.** 1901. Soil map. North Carolina. Newbern sheet. $18\frac{3}{4}$ x 25 in. Scale: 1 inch=1 mile. Soils surveyed by W. G. Smith, 1900.
(*With U. S. Dept. Agric. Field operations. Bureau of soils, 2d Rept. Wash., 1901.*)
- 634.** 1901. Soil map. North Carolina. Princeton sheet. 19 x $24\frac{3}{4}$ in. Scale: 1 inch=1 mile. Soils surveyed by W. G. Smith, 1900.
(*With U. S. Dept. Agric. Field operations. Bureau of soils, 2d Rept. Wash., 1901.*)
- 635.** 1901. U. S. Geol. Survey. Topographic sheets. Abingdon quadrangle, Tenn.-Va.-N. C. $14\frac{1}{2}$ x $17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
Note: First issue 1885. Revised and redrawn in 1886. Printed in 1891. Reissued in 1894, 1896, 1899, 1901.
- 636.** 1901. U. S. Geol. Survey. Topographic sheets. Hickory quadrangle, N. C. $14\frac{1}{2}$ x $17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 50 ft.
Note: First issue 1895.
- 637.** 1901. U. S. Geol. Survey. Topographic sheets. Knoxville quadrangle, Tenn.-N. C. $14\frac{1}{2}$ x $17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
— (*In Keith, Arthur. Knoxville folio. Tennessee-North Carolina. U. S. Geol. Survey. Geologic Atlas U. S. No. 16. Wash., 1895.*)
Note: First issue 1886. Reissued in 1892, 1894, 1895, 1901, 1904.

638. 1902. Drainage basins of southern Appalachian mountains, showing gauging stations maintained by U. S. Geol. Survey. $9\frac{1}{2}$ x 12 in. Scale: 2 in.=50 miles.
(In Pressey, H. A. Hydrography of the Southern Appalachian mountain region. U. S. Geol. Survey. Water-supply and Irrig. Paper No. 62. Wash., 1902. Fold. facing p. 14.)
639. 1902. Map of Catawba Falls and adjacent property, from preliminary survey. The D. A. Tompkins Co., Engs., Charlotte, N. C., Sept., 1902. $6\frac{1}{2}$ x $26\frac{1}{2}$ in.
(L. C.)
640. 1902. Map of Mecklenburg county, 1789. Prepared for engraving by the D. A. Tompkins Co., engineers and contractors, Charlotte, N. C. 6 x $7\frac{1}{2}$ in. Scale: 1 in.=10 miles.
(In Alexander, J. B. The history of Mecklenburg county. From 1740 to 1900. Charlotte, 1902. Fold. Front.)
Note: "The original map from which this was compiled bore this inscription: A plan of Mclenburg and portion of joining counties is laid down by a scale of five miles to an inch January 16th, 1789, by Maj. Joseph Graham."
641. 1902. Map of North Carolina issued by the State Board of Agriculture, Raleigh, North Carolina. $14\frac{3}{4}$ x 34 in.
Note: Also issued in 1906.
642. 1902. Map of southern Appalachian mountains. $9\frac{3}{4}$ x 12 in. Scale: 2 in.=50 miles.
(In Pressey, H. A. Hydrography of the Southern Appalachian mountain region. U. S. Geol. Survey. Water-supply and Irrig. Paper No. 62. Wash., 1902. Fold. Front.)
643. 1902. Map of the southern Appalachian region, showing forest area under consideration and gauging stations of the division of hydrography, U. S. Geol. Survey. $17\frac{1}{2}$ x $21\frac{3}{4}$ in. Scale, 1:874,360.
(In Roosevelt, T. Message from the President. U. S. 57th Cong., 1st Sess., Sen. Doc. No. 84. Wash., 1902. Fold. facing p. 24.)
644. 1902. The National Publishing Company's new railroad, postoffice and county map of North Carolina, with complete index of all postoffices and railroad stations, giving populations and locations. 14 x 35 in. Scale: $7\frac{1}{2}$ in.=100 miles. Boston, National Pub. Co., 1902.
(L. C.)

645. 1902. Norfolk quadrangle. Geologic maps. Topographic and areal. $13\frac{1}{2} \times 27\frac{1}{4}$ in. Scale, 1:125,000. Contour interval, 5 ft.
(*In* Darton, N. H. Norfolk folio. Virginia-North Carolina. U. S. Geol. Survey. Geologic Atlas No. 80. Wash., 1902.)
646. 1902. Relief map of the southern Appalachian region, showing the distribution of the mountains. $17\frac{1}{2} \times 21\frac{3}{4}$ in. Scale, 1:874,360.
(*In* Roosevelt, T. Message from the President. U. S. 57th Cong., 1st Sess. Sen. Doc. No. 84. Wash., 1902. Fold. facing p. 17.)
647. 1902. Soil map. North Carolina. Alamance county sheet. $15\frac{1}{2} \times 25$ in. Scale: 1 inch=1 mile. Soils surveyed by George N. Coffey and Edward W. Hearn, 1901.
(*With* U. S. Dept. Agric. Field operations. Bureau of soils, 3d Rept. Wash., 1902.)
648. 1902. Soil map. North Carolina. Statesville sheet. $22\frac{1}{2} \times 34\frac{1}{4}$ in. Scale: 1 inch=1 mile. Soils surveyed by Clarence W. Dorsey and party, 1901. Contour interval, 50 ft.
(*With* U. S. Dept. Agric. Field operations. Bureau of soils, 3d Rept. Wash., 1902.)
649. 1902. U. S. Geol. Survey. Topographic sheets. Cranberry quadrangle, N. C.-Tenn. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
—— (*In* Keith, Arthur. Cranberry folio. North Carolina-Tennessee. U. S. Geol. Survey. Geologic Atlas No. 90. Wash., 1903.)
Note: First issue 1891. Revised and reprinted in 1892. Reissued 1893, 1895, 1899, 1902, 1907.
650. 1902. U. S. Geol. Survey. Topographic sheets. Parmele quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,500. Contour interval, 10 ft.
Note: Reproduced in part in The interpretation of topographic maps. U. S. Geol. Survey. Prof. Paper No. 60. Wash., 1908. Pl. XXXIII.
651. 1902. U. S. Geol. Survey. Topographic sheets. Williamston quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,500. Contour interval, 10 ft.
Note: Reproduced in part in The interpretation of topographic maps. U. S. Geol. Survey, Prof. Paper No. 60. Wash., 1908. Pl. LIV.
652. 1902. Map of a portion of Edenton bay, N. C. $32\frac{3}{4} \times 47\frac{1}{2}$ in. Scale: 1 inch=100 ft.
(U. S. W. D.)

653. 1903. Cranberry quadrangle. Geologic maps. Topographic, areal and economic. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
(In Keith, Arthur. Cranberry folio. North Carolina-Tennessee. U. S. Geol. Survey. Geologic Atlas U. S. No. 90. Wash., 1903.)
654. 1903. Map of Rowan county, N. C. Drawn by C. M. Miller, C. E., Salisbury, N. C. $39 \times 53\frac{1}{2}$ in. Scale: 5 in.=4 miles.
Inset: Map of Salisbury, N. C.
655. 1903. Map showing distribution of clays in North Carolina, South Carolina, Georgia, Alabama, Tennessee . . . $9\frac{1}{2} \times 12$ in. Scale: $4\frac{1}{4}$ in.=200 miles.
(In Ries, Heinrich. Clays of the United States. . . U. S. Geol. Survey. Prof. Paper, No. 11. Wash., 1903. Fold. facing p. 180.)
656. 1903. Outline map showing the area of Mecklenburg when it was created in 1762. Within the heavy black lines is the county as it has been since 1842. The counties which have been cut off from it are given with the dates of their creation. The part west of the Catawba was formed into Tryon in 1767, the name was changed to Lincoln in 1776 and Gaston was taken from it in 1846. $4\frac{1}{4} \times 6$ in. Scale: 14 miles to the inch.
(In Tompkins, D. A. History of Mecklenburg county. . . Vol. I. Charlotte, N. C., 1903. Facing p. 1.)
657. 1903. Road map of Buncombe county, North Carolina. Copyright 1903 by H. Taylor Rogers. $27\frac{1}{4} \times 35$ in. Scale: $5\frac{3}{4}$ in.=6 miles.
(L. C.)
658. 1903. Soil map. North Carolina. Hickory sheet. $17\frac{1}{4} \times 25\frac{1}{2}$ in. Scale: 1 inch=1 mile. Contour interval, 50 ft. Soils surveyed by Thos. W. Caine, 1902.
(With U. S. Dept. Agric. Field operations. Bureau of soils, 4th Rept. Wash., 1903.)
659. 1903. Soil map. North Carolina. Mt. Mitchell area. $17\frac{1}{2} \times 24\frac{3}{4}$ in. Scale: 1 inch=1 mile. Contour interval, 50 ft. Soils surveyed by Thos. A. Caine, 1902.
(With U. S. Dept. Agric. Field operations. Bureau of soils, 4th Rept. Wash., 1903.)
660. 1903. Soil map. North Carolina. Taylorsville sheet. $17\frac{1}{4} \times 28\frac{1}{2}$ in. Scale: 1 inch=1 mile. Contour interval, 50 ft. Soils surveyed by Thos. A. Caine, 1902. Base map enlarged and redrawn from U. S. Geol. Survey sheet.
(With U. S. Dept. Agric. Field operations. Bureau of soils, 4th Rept. Wash., 1903.)

661. 1903. U. S. Geol. Survey. Topographic sheets. Dahlonga quadrangle, Ga.-N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.

Note: First issue 1886. Reissued in 1892, 1896, 1901, 1903.

662. 1903. U. S. Geol. Survey. Topographic sheets. Ellijay quadrangle, Ga.-N. C.-Tenn. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.

Note: First issue 1888. Reissued in 1892, 1898, 1903.

663. 1903. U. S. Geol. Survey. Topographic sheets. Kenly quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,500. Contour interval, 20 feet.

664. 1903. U. S. Geol. Survey. Topographic sheets. Newbern quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,500. Contour interval, 10 feet.

665. 1903. U. S. Geol. Survey. Topographic sheets. Tarboro quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,500. Contour interval, 10 ft.

666. 1903. U. S. Geol. Survey. Topographic sheets. Walhalla quadrangle, Ga.-S. C.-N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.

Note: First issue 1886. Reissued in 1892, 1896, 1900, 1903.

667. 1903. U. S. Geol. Survey. Topographic sheets. Wilkesboro quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.

Note: First issue 1891. Reissued 1896, 1901, 1906.

668. 1903. General map of inland waterway, Norfolk, Va., to Beaufort Inlet, N. C., 1903. $15\frac{1}{4} \times 27\frac{1}{4}$ in. Scale: $4\frac{3}{4}$ in. = 25 miles.

— (In U. S. 58th Cong., 2d Sess., 1904. House Doc. No. 563. Fold. facing p. 34. $11\frac{1}{2} \times 44$ in. Scale: $3\frac{1}{2}$ in. = 25 miles.)

669. 1903. Map of inland waterway. In 4 divisions: Pt. 1. From Norfolk, Va., to Albemarle sound, N. C. 50×61 in. Pt. 2. From Albemarle sound to Pamlico sound, N. C. 45×60 in. Pts. 3 and 4. From Pamlico sound to Beaufort inlet, N. C., $44\frac{3}{4} \times 59\frac{1}{4}$ in. Scale: $4\frac{3}{4}$ in. = 5 miles.

(U. S. W. D.)

670. 1903. Perquimans river, N. C., at and near Hertford. Surveyed under direction of Capt. E. Eveleth Winslow . . . by Shirley Carter, surveyor. 9×11 in. Scale, 1:6000.

(In U. S. 58th Cong., 2d Sess., 1904. House Doc. No. 302.)

671. 1904. Asheville quadrangle. Geologic maps. Topographic, areal and economic. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
(*In* Keith, Arthur. Asheville folio. North Carolina-Tennessee. U. S. Geol. Survey. Geologic Atlas U. S. No. 116. Wash., 1904.)
672. 1904. Geological sketch map showing the location of the Carolina tin deposits. 5×8 in. Scale: 25 miles=1 inch.
(*In* Pratt, J. H., and Sterrett, D. B. The tin deposits of the Carolinas. N. C. Geological Survey, Bull. 19. Raleigh, 1904. Facing p. 11.)
673. 1904. The Hudgins Company's new survey map of North Carolina. Alphabetical list of counties, cities, towns and villages with keys for locating same. Railroad systems in separate colors showing distances between stations, mail routes, rural free delivery with distances, service, etc. Atlanta, Ga. $20\frac{1}{2} \times 46\frac{3}{4}$ in. Scale: 6 in.=50 miles.
674. 1904. Land classification map of part of the southern Appalachian region, by H. B. Ayres and W. W. Ashe, 1904. Field work done in 1900-1901. $26\frac{1}{2} \times 29\frac{1}{4}$ in. Scale, 1:375,000. Contour interval, 200 ft.
(*In* Ayres, H. B., and Ashe, W. W. The Southern Appalachian Forests. U. S. Geol. Survey, Prof. Paper 37. Wash., 1905. Fold. at end.)
675. 1904. Soil map. North Carolina. Asheville sheet. $25 \times 27\frac{3}{4}$ in. Scale: 1 inch=1 mile. Soils surveyed by J. E. Lapham and F. N. Meeker.
(*With* U. S. Dept. Agric. Field operations. Bureau of soils, 5th Rept. Wash., 1904.)
676. 1904. Soil map. North Carolina. Craven sheet. $23\frac{1}{2} \times 34\frac{3}{4}$ in. Scale, 1:62,500. Contour interval, 10 ft. Soils surveyed by William G. Smith and George N. Coffey.
(*With* U. S. Dept. Agric. Field operations. Bureau of soils, 5th Rept. Wash., 1904.)
677. 1904. U. S. Geological Survey. Topographic sheets. Ayden quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,500. Contour interval, 10 ft.
678. 1904. U. S. Geol. Survey. Topographic sheets. Edenton quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,500. Contour interval, 10 ft.
679. 1904. U. S. Geol. Survey. Topographic sheets. Falkland quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,500. Contour interval, 10 ft.

680. 1904. U. S. Geol. Survey. Topographic sheets. Hillsville quadrangle, Va.-N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
Note: First issue 1889. Reissued in 1892, 1896, 1900, 1904.
681. 1904. U. S. Geol. Survey. Topographic sheets. Murphy quadrangle, Tenn.-N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
Note: First issue 1886. Revised and redrawn in 1892. Printed 1893. Reissued 1898, 1901, 1904.
682. 1904. U. S. Geol. Survey. Topographic sheets. Rocky Mount quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,500. Contour interval, 10 ft.
683. 1904. U. S. Geol. Survey. Topographic sheets. Springhope quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,000. Contour interval, 20 ft.
684. 1904. U. S. Geol. Survey. Topographic sheets. Trent river quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 10 ft.
685. 1904. U. S. Geol. Survey. Topographic sheets. Vanceboro quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,500. Contour interval, 10 ft.
686. 1904. U. S. Geol. Survey. Topographic sheets. Wilson quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,500. Contour interval, 10 ft.
687. 1905. Geologic map of western North Carolina, showing the distribution and geologic relations of corundum and the basic magnesian rocks, by Joseph Hyde Pratt and Joseph Volney Lewis. $15 \times 26\frac{1}{2}$ in. Scale, 1:493,000.
(In Pratt, J. H., and Lewis, J. V. Corundum and the peridotites of western North Carolina. N. C. Geol. Survey. Vol. 1. Raleigh, 1905. Fold. facing p. 24.)
688. 1905. Greeneville quadrangle. Geologic maps. Topographic, areal and economic. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
(In Keith, Arthur. Greeneville folio. Tennessee-North Carolina. U. S. Geol. Survey. Geologic Atlas U. S. No. 118. Wash., 1905.)
689. 1905. Linville Park. Mitchell, Watauga and Caldwell counties, North Carolina, showing forest types. $6 \times 7\frac{1}{2}$ in. Scale: 1 in.=1 mile.
(In Reed, F. W. Rept. on examination of a forest tract in western North Carolina. U. S. Dept. Agric., Bureau of Forestry, Bull. No. 60. Wash., 1905. Fold. facing p. 8.)

690. 1905. Lynch's complete map of Rutherford county, N. C. Lee W. Lynch, T. E. $28\frac{1}{2} \times 35$ in.
(L. C.)
691. 1905. Map of Edgecombe county, North Carolina. Compiled from maps of the U. S. Geol. Survey and from private surveys by Albert Pike and W. H. Brown, topographers, U. S. Geol. Survey, 1905. $28\frac{1}{2} \times 35$ in. Scale: 5 in.=4 miles.
Inset: Vicinity of Tarboro. Scale: 4 inches = 1 mile.
(L. C.)
692. 1905. Mount Mitchell quadrangle. Geologic maps. Topographic, areal and economic. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
(In Keith, Arthur. Mount Mitchell folio. North Carolina-Tennessee. U. S. Geol. Survey. Geologic Atlas U. S. No. 124. Wash., 1905.)
693. 1905. Relief map of the southern Appalachian region, showing the distribution of the mountains. 18×22 in. Scale: 3 in.=50 miles.
(In Ayres, H. B., and Ashe, W. W. The Southern Appalachian forests. U. S. Geol. Survey. Prof. Paper 37. Wash., 1905. Fold. at end.)
694. 1905. U. S. Geol. Survey. Topographic sheets. Chocowinity quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,500. Contour interval, 10 ft.
695. 1905. U. S. Geol. Survey. Topographic sheets. Greeneville quadrangle, Tenn.-N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
— (In Keith, Arthur. Greenville folio. Tennessee-North Carolina. U. S. Geol. Survey. Geologic Atlas U. S. No. 118. Wash., 1905.)
Note: First issue 1886. Revised and redrawn in 1890. Printed in 1892. Reissued in 1896, 1900, 1901, 1904, 1905.
696. 1905. U. S. Geol. Survey. Topographic sheets. Morganton quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
Note: First issue 1888. Reissued 1892, 1896, 1900, 1901, 1902, 1905.
697. 1905. U. S. Geol. Survey. Topographic sheets. Norfolk quadrangle, Va.-N. C. $13\frac{1}{4} \times 27\frac{1}{4}$ in. Scale, 1:125,000. Contour interval, 5 ft.
— (In Darton, N. H. Norfolk folio. N. C.-Va. U. S. Geol. Survey. Geologic Atlas U. S. No. 80. Wash., 1902.)
Note: First issue 1893. Virginia Beach sheet incorporated in 1894. Reissued 1894, 1898, 1902, 1905. Reproduced in part in the Interpretation of topographic maps. U. S. Geol. Survey. Prof. Paper No. 60. Wash., 1908. Pl. XVI.

698. 1905. U. S. Geol. Survey. Topographic sheets. Winterville quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,500. Contour interval, 10 ft.
699. 1906. Map of central portion of North Carolina showing distribution of the triassic sandstone. $4\frac{1}{2} \times 6\frac{1}{4}$ in.
(In Watson, Laney and Merrill. Building and ornamental stones of North Carolina. N. C. Geol. Survey, Bull. 2. Raleigh, E. M. Uzzell, 1906. Facing p. 218.)
700. 1906. Map of North Carolina. $5\frac{1}{2} \times 8\frac{1}{2}$ in. Scale: $5\frac{3}{4}$ in.=100 miles.
(In Foust, J. I., and Allen, N. M. North Carolina. Suppl. vol. to Tarr & McMurry's Geographies. Fold. Front.)
701. 1906. Map of the nickel-bearing area in the vicinity of Webster, Jackson county, N. C., after J. Volney Lewis. $6\frac{3}{4} \times 7\frac{1}{2}$ in. Scale: 3 in.=3 miles.
(In Barlow, Alfred E. On the nickel deposits of Webster, western North Carolina. Can. Mining Inst. Jour., v. 9 (1906). Fold. facing p. 316.)
702. 1906. Map showing approximate location of seines and pound nets fished for shad in 1906. U. S. Bureau of Fisheries. Reduced from U. S. C. & G. S. Charts Nos. 140 and 141. $18\frac{1}{4} \times 30\frac{1}{2}$ in. Scale: $4\frac{1}{2}$ in.=10 miles.
(In Cobb, J. N. Investigations relative to the shad fisheries of North Carolina. N. C. Geol. Survey, Econ. Paper No. 12. Raleigh, 1906. Fold. at end.)
703. 1906. Map showing approximate location of seines and pound nets fished for shad in 1906. U. S. Bureau of Fisheries. Reduced from U. S. C. & G. S. Charts Nos. 144¹ and 144². $17\frac{1}{2} \times 20\frac{3}{4}$ in. Scale: $4\frac{1}{2}$ in.=10 miles.
(In Cobb, J. N. Investigations relative to the shad fisheries of North Carolina. N. C. Geol. Survey, Econ. Paper No. 12. Fold. at end.)
704. 1906. Map showing approximate location of seines and pound nets fished for shad in 1906. U. S. Bureau of Fisheries. Reduced from U. S. C. & G. S. Charts Nos. 142 and 143. $18\frac{3}{4} \times 25\frac{1}{4}$ in. Scale: $4\frac{1}{2}$ in.=10 statute miles.
(In Cobb, J. N. Investigations relative to the shad fisheries of North Carolina. N. C. Geol. Survey, Econ. Paper No. 12. Fold. at end.)
705. 1906. Map showing geographic distribution in North Carolina of granite and gneiss. $4\frac{1}{2} \times 11\frac{3}{4}$ in.
(In Watson, Laney and Merrill. Building and ornamental stones of North Carolina. N. C. Geol. Survey, Bull. 2. Raleigh, 1906. Fold. facing p. 30.)
Note: Shows location of principal granite quarries.

706. 1906. Physiographic map of North Carolina. $4\frac{1}{2} \times 11\frac{3}{4}$ in.
(In Watson, Laney and Merrill. Building and ornamental stones of North Carolina. N. C. Geol. Survey, Bull. 2. Raleigh, 1906. Fold. facing p. 12.)
Note: Shows approximately portions of the state included in the coastal plains, Piedmont plateau and the mountains, also the distribution of the major geological formations.
707. 1906. Scarborough's map of North Carolina and South Carolina, showing railroads, highways, counties, townships, cities, towns, postoffices, and stations, with distances between stations in English statute miles. 35×55 in. Scale: 9 miles to 1 inch. Indianapolis, Ind. The Scarborough Co., 1906.
708. 1906. Topographic map of the central portion of the Carolinas, showing by crossed hammers, locations of principal gold mines in the area described. 7×9 in. Scale: 3 in.=30 miles.
(In Graton, L. C. Reconnaissance of some gold and tin deposits of the Southern Appalachians. U. S. Geol. Survey, Bull. 293. Wash., 1906. Fold. facing p. 10.)
709. 1906. Soil map. North Carolina. Duplin county sheet. Soils surveyed by A. S. Root and Lewis A. Hurst. $25\frac{1}{2} \times 31\frac{1}{4}$ in. Scale: 1 mile=1 inch.
(With U. S. Dept. Agric. Field operations. Bureau of soils. 7th Rept. Wash., 1906.)
710. 1906. Soil map. North Carolina. Perquimans and Pasquotank sheet. Soils surveyed by J. E. Laphan and W. S. Lyman. $25\frac{3}{4} \times 29$ in. Scale: 1 inch=1 mile.
(With U. S. Dept. Agric. Field operations. Bureau of soils. 7th Rept. Wash., 1906.)
711. 1906. Map of the Hazel Creek and Eagle Creek watersheds. By F. B. Laney, assistant geologist. Scale: 5 inches=1 mile. MSS.
(N. C. G. S.)
712. 1906. U. S. Geol. Survey. Topographic sheets. Hertford quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,500. Contour interval, 10 ft.
713. 1906. U. S. Geol. Survey. Topographic sheets. Mt. Guyot quadrangle, Tenn.-N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
Note: First issue 1886. Reissued 1893, 1897, 1900, 1906.
714. 1906. General map of inland waterway, Norfolk, Va., to Beaufort inlet, N. C., 1906. $17\frac{1}{2} \times 28$ in. Scale, 1:40,000.
(U. S. W. D.)

- 715.** 1906. General map of inland waterway, Norfolk, Va., to Beaufort inlet, N. C., 1906. $12 \times 18\frac{3}{4}$ in. Scale, 1:60,000.
(In U. S. 59th Cong., 2d Sess., 1907. House Doc. No. 84. Fold. at end.)
- 716.** 1907. Map of North Carolina: showing major physiographic provinces. $4 \times 8\frac{1}{2}$ in. Scale: $1\frac{3}{4}$ in.=100 miles.
(In Stephenson, Lloyd William. The mesozoic (cretaceous) deposits of the Coastal Plain of North Carolina. Dissertation. . . Johns Hopkins University. April, 1907.)
- 717.** 1907. Map of Pamlico sound, North Carolina, reduced from U. S. C. & G. S. Charts Nos. 142 and 143 for the N. C. Geol. and Economic Survey, 1907. $9\frac{1}{4} \times 12\frac{1}{2}$ in. Scale: 2 in.=10 miles.
(In Coker, R. E. Experiments in oyster culture in Pamlico Sound, North Carolina. N. C. Geol. and Econ. Survey, Bull. 15. Raleigh, 1907. Fold. facing p. 3.)
- 718.** 1907. Map showing distribution of cretaceous deposits of North Carolina. 8×12 in.
(In Stephenson, Lloyd William. The mesozoic (cretaceous) deposits of the Coastal Plain of North Carolina. Dissertation. . . Johns Hopkins University, April, 1907.)
- 719.** 1907. Nantahala quadrangle. Geologic maps. Topographic, areal and economic. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
(In Keith, Arthur. Nantahala folio. North Carolina-South Carolina. U. S. Geol. Survey. Geologic Atlas U. S. No. 143. Wash., 1907.)
- 720.** 1907. Outerop map of the Virgilina copper district of Person and Granville counties, North Carolina. Geology by F. B. Laney and J. E. Pogue, Jr. Surveyed by R. L. Harrison, topographic aid, U. S. G. S. $24\frac{1}{2} \times 34\frac{3}{4}$ in. Scale, 1:24,000. Published by N. C. Geological and Economic Survey.
(U. S. G. S.)
- 721.** 1907. Pisgah quadrangle. Geologic maps. Topographic, areal and economic. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
(In Keith, Arthur. Pisgah folio. North Carolina-South Carolina. U. S. Geol. Survey. Geologic Atlas U. S. No. 147. Wash., 1907.)
- 722.** 1907. Roan Mountain quadrangle. Geologic maps. Topographic, areal and economic. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
(In Keith, Arthur. Roan Mountain folio. Tennessee-North Carolina. U. S. Geol. Survey. Geologic Atlas U. S. No. 151. Wash., 1907.)

723. 1907. Roanoke island and its surroundings. *Authorities*. Map in Harriot's narrative. U. S. Coast and Geod. Survey Chart No. 10. Modern maps. $9\frac{3}{4} \times 13\frac{1}{2}$ in. Scale: 1 inch=14 miles. (L. C.)
724. 1907. U. S. Geol. Survey. Topographic sheets. Asheville quadrangle, N. C.-Tenn. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
 — (In Keith, Arthur. Asheville folio. North Carolina-Tennessee. U. S. Geol. Survey. Geologic Atlas U. S. No. 116. Wash., 1904.)
Note: First issue 1886. Reissued in 1889, 1894, 1897, 1898, 1901, 1904, 1907.
725. 1907. U. S. Geol. Survey. Topographic sheets. Beckford quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,500. Contour interval, 10 ft.
726. 1907. U. S. Geol. Survey. Topographic sheets. Charlotte quadrangle, N. C.-S. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,500. Contour interval, 20 ft.
727. 1907. U. S. Geol. Survey. Topographic sheets. Cowee quadrangle, N. C.-S. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
Note: First issue 1886. Reissued 1891, 1897, 1902, 1904, 1905, 1907.
728. 1907. U. S. Geol. Survey. Topographic sheets. Nantahala quadrangle, N. C.-Tenn. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
 — (In Keith, Arthur. Nantahala folio. N. C.-Tenn. U. S. Geol. Survey. Geologic Atlas U. S. No. 143. Wash., 1907.)
Note: First issue 1886. Reissued 1892. Revised 1895. Reissued 1896, 1900, 1902, 1906, 1907.
729. 1907. U. S. Geol. Survey. Topographic sheets. Pisgah quadrangle, N. C.-S. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
 — (In Keith, Arthur. Pisgah folio. North Carolina-South Carolina. U. S. Geol. Survey. Geologic Atlas U. S. No. 147. Wash., 1907.)
Note: First issued 1890. Reissued 1892, 1896, 1899, 1902. Revised in 1904 and 1905 and reissued in 1906, 1907.
730. 1907. U. S. Geol. Survey. Topographic sheets. Roan Mountain quadrangle, Tenn.-N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
 — (In Keith, Arthur. Roan Mountain folio. Tennessee-North Carolina. U. S. Geol. Survey. Geologic Atlas U. S. No. 151. Wash., 1907.)
Note: First issue 1891. Reissued 1894, 1896, 1901, 1904, 1907.

731. 1907. U. S. Geol. Survey. Topographic sheets. Saluda quadrangle, N. C.-S. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.

Note: First issue 1889. Reissued in 1896, 1899, 1900, 1902, 1907.

732. 1907. U. S. Geol. Survey. Topographic sheets. Wytheville quadrangle, N. C.-Va. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.

Note: First issue 1889. Reissued 1892, 1895, 1897, 1907.

733. 1907. Map of proposed route of inland waterway from Pamlico sound to Beaufort inlet, N. C. $26\frac{1}{2} \times 120\frac{1}{2}$ in. Scale, 1:10,000. Contour interval, 2 ft.

(U. S. W. D.)

734. 1908. Gold Hill mining district, Gold Hill, N. C. N. C. Geol. Survey. Geology by Francis B. Laney. Traverse by R. L. Harrison. $15\frac{1}{2} \times 27$ in. Scale, 1:48,000.

(With Laney, Francis Baker. The Gold Hill mining district of North Carolina. A thesis presented to Yale University for Degree of Doctor of Philosophy, June, 1908.)

735. 1908. Map of Guilford county, N. C. Drawn by C. M. Miller, Salisbury, N. C. $34\frac{1}{4} \times 42$ in. Scale: $3\frac{3}{4}$ in. = $2\frac{1}{2}$ miles.

736. 1908. Map of North Carolina, showing evolution of settlements and location of races down to 1776. Drawn by Samuel A. Ashe and Stephen B. Weeks. 5×9 in.

(In Ashe, Samuel A. History of North Carolina. Vol. 1. Greensboro, N. C., 1908. Fold., p. 377.)

737. 1908. Map showing location of seines and pound nets fished for shad in 1908. Chart of Albemarle and Croatan sounds and a portion of Pamlico sound, North Carolina, compiled from U. S. C. & G. S. Charts Nos. 140, 141, 142. $9 \times 9\frac{1}{2}$ in. Scale: 1 in. = 10 miles.

(In Pratt, Joseph Hyde. Report called by Governor R. B. Glenn. . . N. C. Geol. and Econ. Survey. Econ. Paper No. 16. Raleigh, 1908. Fold., p. 18.)

738. 1908. North Carolina in 1783. $6\frac{1}{2} \times 9$ in. Scale: $1\frac{3}{4}$ in. = 100 miles.

(In Ashe, Samuel A. History of North Carolina. Vol. 1. Greensboro, 1908. Fold. at end.)

Note: Original drawing of this map in possession of Dr. Stephen B. Weeks of North Carolina.

739. 1908. Soil map. North Carolina. Chowan county sheet. $13 \times 21\frac{3}{4}$ in. Scale: 1 inch = 1 mile. Soils surveyed by W. Edward Hearn and G. M. MacNider, 1906.

(With U. S. Dept. Agric. Field operations. Bureau of soils, 8th Rept. Wash., 1908.)

740. 1908. Soil map. North Carolina. New Hanover county sheet. $16\frac{1}{4} \times 25\frac{3}{4}$ in. Scale: 1 inch=1 mile. Soils surveyed by J. A. Drake and H. L. Belden, 1906.
(With U. S. Dept. Agric. Field operations. Bureau of soils, 8th Rept. Wash., 1908.)
741. 1908. Soil map. North Carolina. Transylvania county sheet. $20\frac{3}{4} \times 22\frac{1}{2}$ in. Scale: 1 inch=1 mile. Contour interval, 100 feet. Soils surveyed by W. Edward Hearn and G. M. MacNider, 1906.
(With U. S. Dept. Agric. Field operations. Bureau of soils, 8th Rept. Wash., 1908.)
742. 1908. U. S. Geol. Survey. Topographic sheets. Four Oaks quadrangle. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,500. Contour interval, 10 ft.
743. 1908. U. S. Geol. Survey. Topographic sheets. King's Mountain quadrangle, N. C.-S. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,500. Contour interval, 20 ft.
744. 1908. U. S. Geol. Survey. Topographic sheets. Statesville quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 50 ft.
Note: First issue 1893. Reissued 1896, 1902, 1907, 1908.
745. 1908. U. S. Geol. Survey. Topographic sheets. Winton quadrangle, N. C. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:62,500. Contour interval, 10 ft.
746. 1908. Beaufort inlet and harbor, N. C. Surveyed by F. D. Perry, R. H. Jones and C. K. Howe under the direction of Capt. Earl I. Brown, May 12-July 12, 1908. $29\frac{1}{2} \times 32\frac{1}{2}$ in. Scale, 1:10,000.
(In U. S. 60th Cong., 2d Sess., 1909. House Doc. No. 1454. Fold. at end.)
747. 1908. Hydrography of Shallowbag bay and vicinity. Surveyed by F. D. Perry, H. C. Jones and C. K. Howe under the direction of Capt. Earl I. Brown, March, 1908. $15 \times 17\frac{1}{4}$ in. Scale, 1:20,000.
(In U. S. 60th Cong., 1st Sess., 1908. House Doc. No. 906. Fold. at end.)
748. 1908. Hydrography of South river (creek), N. C., in the vicinity of Aurora. Surveyed by F. D. Perry, H. D. Jones and C. K. Howe under the direction of Capt. Earl I. Brown, 1908. $10\frac{1}{2} \times 14$ in. Scale, 1:10,000.
(In U. S. 60th Cong., 1st Sess., 1908. House Doc. No. 954. Fold. facing p. 6.)

- 749.** 1909. U. S. Geol. Survey. Topographic sheets. Mount Mitchell quadrangle, N. C.-Tenn. $14\frac{1}{2} \times 17\frac{1}{2}$ in. Scale, 1:125,000. Contour interval, 100 ft.
 — (In Keith, Arthur. Mount Mitchell folio. North Carolina-Tennessee. U. S. Geol. Survey. Geologic Atlas U. S. No. 124. Wash., 1905.)
Note: First issue 1890. Reissued 1891, 1896, 1898, 1902, 1905, 1909. Reproduced in part in the Interpretation of topographic maps. U. S. Geol. Survey. Prof. Paper No. 60. Wash., 1908. Pl. XXXIX.
- 750.** Before 1775. Carte nouvelle de l'Amerique Angloise contenant tout ce que les Anglois possèdent sur le continent de l'Amerique septentrionale . . . la Caroline septentrionale . . . par Matthieu Albert Lotter a Augsburg. $18\frac{1}{2} \times 22\frac{3}{4}$ in. Scale: $4\frac{3}{4}$ in.=100 lieues.
 (U. S. G. S.)
- 751.** No date. Geographical, statistical and historical map of North Carolina. $10\frac{1}{4} \times 18$ in. Scale: $3\frac{1}{4}$ in.=80 miles.
 (U. N. C. L.)
 Contains various descriptive notes on the state, physiographic and climatic.
- 752.** No date. McDuffie's map of Moore county, North Carolina. By Jno. McDuffie, Fayetteville, N. C. $19\frac{1}{2} \times 24$ in. Scale: 2 miles=1 inch.
 (N. C. S. L.)
- 753.** No date. Map of Cabarrus county. 12×15 in. Scale: 2 miles=1 inch. By T. C. Harris. MSS.
 (Off. Sec. of State, N. C.)
- 754.** No date. Map of Craven county. H. T. Guion and Wm. F. Marshall, commissioners of Craven county. $15\frac{1}{2} \times 20\frac{1}{2}$ in. Scale: 2 miles to 1 inch.
 (Off. Sec. of State, N. C.)
- 755.** No date. Map of Jones county by Jos. Kinsey, surveyor. Reduced to 2 (?) miles=1 inch. T. C. Harris. 12×12 in. MSS.
 (Off. Sec. of State, N. C.)
- 756.** No date. Map of Lenoir county by Wm. Arthur. 28×35 in. Scale: 1 inch=1 mile. MSS.
 (Off. Sec. of State, N. C.)
- 757.** No date. Map of Montgomery county. $13 \times 16\frac{3}{4}$ in. Scale: 2 miles=1 inch. MSS.
 (Off. Sec. of State, N. C.)
- 758.** No date. Map of Neuse river from Goldsboro to its mouth. $23\frac{1}{2} \times 43$ in. Scale: 2 miles=1 inch. MSS.
 (Off. Sec. of State, N. C.)

759. No date. Map of New Hanover county, North Carolina. $9\frac{1}{2} \times 18$ in. Scale: 1 mile to $\frac{1}{2}$ inch.
(*U. N. C. L.*)
760. No date. Map of North Carolina. $37\frac{3}{4} \times 72\frac{1}{2}$ in.
(*Off. Sec. of State, N. C.*)
761. No date. Map of North Carolina. Published by Geo. F. Cram, Chicago, Ill. $13 \times 19\frac{1}{2}$ in.
(*N. C. S. L.*)
762. No date. Map of Randolph county, N. C., by J. W. Bean. $13\frac{1}{2} \times 13\frac{3}{4}$ in. Scale: 2 miles to the inch. MSS.
(*Off. Sec. of State, N. C.*)
763. No date. [Map of the Dismal Swamp and adjacent parts of Virginia and North Carolina.] $19\frac{1}{2} \times 26\frac{1}{4}$ in. MSS.
(*U. S. G. S.*)
Note: Has track of the contemplated inland navigation from the falls of the Roanoke to Suffolk, Va.
764. No date. A map of the roads and country between Edenton and Norfolk, with the Dismal Swamp and Great Park canals, etc. Laid down by a scale of 320 poles to the inch. By Escum Newby. $41 \times 53\frac{3}{4}$ in. MSS.
(*Off. Sec. of State, N. C.*)
765. No date. Map of the States of North and South Carolina. $9\frac{1}{4} \times 15$ in. Scale: English miles, 69 to a degree. London, Published June 1, by J. T. Hinton and Simpkin & Marshall.
(*S. B. W.*)
766. No date. A map of the Tennessee government formerly part of North Carolina. Taken chiefly from surveys by Gen. D. Smith and others. Engraved for Carey's American edition of Guthrie's geography, improved. J. T. Scott, Sculp. $9 \times 19\frac{1}{2}$ in. A scale of 22 miles to the inch.
(*U. N. C. L.*)
767. No date. Map of Transylvania county. $20\frac{1}{2} \times 28\frac{1}{2}$ in. MSS.
(*Off. Sec. of State, N. C.*)
768. No date. Map of Wake county. Drawn from actual surveys by Fendol Bevers, county surveyor. Published by Nichols & Gorman, in connection with the surveyor. 18×25 in. Scale: 2 miles to 1 inch.
Inset: City of Raleigh.
769. No date. Mineral lands in North Carolina belonging to the Mineral Company. [Colored tracts owned by the Mineral Company.] $16\frac{3}{4} \times 25\frac{1}{4}$ in. Scale: $5\frac{1}{2}$ in. = 100 perches.
(*L. C.*)

770. No date. Mineral territory tributary to Norfolk and Western Railroad. $24\frac{1}{2} \times 32\frac{3}{4}$ in. Scale: 3 in.=25 miles.

(Greensboro, N. C., Lib.)

Note: Includes Ashe, Alleghany, Stokes, Rockingham, Caswell, Person, Granville and Vance counties, N. C.

771. No date. A new and accurate map of North Carolina in North America. $10 \times 13\frac{1}{2}$ in. Scale: $1\frac{3}{4}$ in.=30 miles.

(U. S. G. S.)

772. No date. New railroad and county map of North and South Carolina. $14\frac{1}{4} \times 21$ in. Scale: $2\frac{1}{2}$ in.=60 miles.

(N. C. S. L.)

773. North Carolina. Original drawings and tracings of the swamp lands belonging to the Board of Education: Josiah Collins grant; South river and Adams creek; Dover pocoson in Jones and Craven counties; Angola bay in Pender and Duplin counties; open lands in Carteret county; Hollyshells swamp in Pender and Onslow counties; J. A. Brant's lands in Craven, Carteret and Jones counties; White Oak Swamp; lands in Columbus county, and lands in Onslow county.

Note: These maps may be found at the office of the Supt. of Public Instruction, Raleigh, N. C., and are compiled from maps of various surveys, including some of the early surveys.

774. No date. Plan of 1st Division of D. M. & S. W. R. R. $21\frac{3}{4} \times 109$ in. Scale: 400 ft. to 1 in. MSS.

(Off. Sec. of State, N. C.)

775. No date. Plan of Rocky river from its mouth to Smith's Mill, together with a survey from the mouth of Mallard's creek to the Big Bend of the Catawba river . . . by John Conty. $12\frac{1}{2} \times 86\frac{1}{2}$ in. Scale: 1 mile=1.13 inch. MSS.

(Off. Sec. of State, N. C.)

776. No date. Railroad from Cheraw to Salisbury, by T. C. Harris. 10×40 in. Scale: 2 miles=1 inch. MSS.

(Off. Sec. of State, N. C.)

777. No date. Survey from head of Yadkin river to the Tennessee line, MSS. in four sheets, each $25\frac{1}{4} \times 46\frac{3}{4}$ in.

(Off. Sec. of State, N. C.)

778. No date. Geological profile map from Wilmington to Sanford, North Carolina. $21\frac{3}{4} \times 79\frac{1}{4}$ in. D. W. Cronin, Del.

(N. C. G. S.)

779. No date. Sketch of N. C. R. R. from a tracing of Mr. Cooke. $35 \times 93\frac{1}{2}$ in. Scale: 2 miles=1 inch. MSS.

(N. C. G. S.)

780. No date. A chart of the coast from Cape Fear to Cape Henry. Surveyed by order of Navy Commissioners under the direction of J. B. Nicholson, U. S. Navy. 35 x 46½ in.
(U. S. W. D.)
781. No date. Chattanooga mineral district. 23½ x 32 in. Scale: 6 miles to 1 inch.
(U. S. W. D.)
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782. No date. A diagram of Cape Hatteras shoals . . . surveyed . . . by Edward L. Young. 29¼ x 35 in. Scale: 3½ in. = 2000 yards.
(U. S. W. D.)
783. No date. Map of the coast of North Carolina. 70 x 135¼ in. (Unfinished.)
(U. S. W. D.)
784. No date. Part of North Carolina showing Pamlico and Albemarle sounds. 20½ x 27 in.
(U. S. W. D.)

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